UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JAN 15 2013

REPLY TO THE ATTENTION OF:
WC-15J

CERTIFIED MAIL 7009 1680 0000 7678 5082
RETURN RECEIPT REQUESTED

Mr. Lee Heeren
Illinois Environmental Protection Agency
4302 North Main
Rockford, Illinois 61103
Subject: EPA Oversight Inspection Report

Dear Mr. Heeren:

Enclosed, please find a copy of the U.S. Environmental Protection Agency Oversight Inspection Report for the inspection conducted by Illinois Environmental Protection Agency (IEPA) at Golden Oaks Farm on May 2, 2012. The purpose of the EPA oversight inspection report is to evaluate the IEPA's inspection report from the inspection conducted on May 2, 2012 and subsequent findings at Golden Oaks Farm.

Should you find anything in the report that you disagree with, please provide a detailed response.

Thank you for your prompt attention to this matter. If you have any questions, please contact Joan Rogers of my staff at (312) 886-2785.

Sincerely,

Ryan J. Bahr, Chief, Section 2
Water Enforcement and Compliance Assurance Branch

Enclosures

cc: Bud Bridgewater, IEPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 5

CWA OVERSIGHT INSPECTION REPORT
ILLINOIS

The purpose of this document is to provide an evaluation of an Animal Feeding Operation inspection conducted by the Illinois Environmental Protection Agency (IEPA). This evaluation is conducted via comparison to a similar inspection performed by the U.S. Environmental Protection Agency (EPA).

Inspection facility	Golden Oaks Farm 27730 W. Bonner Road Wauconda, IL 60084
NPDES permit status	No permit
IEPA inspection date	05/02/12
EPA inspection date	09/05/12

Golden Oaks Farm is a large dairy located in Lake County, Illinois. IEPA conducted an inspection at the site on May 2, 2012, and found minor compliance issues but no discharges of manure or process wastewater to surface waters (Attachment 1). On September 5, 2012, EPA conducted an inspection at the facility and found the same minor compliance issues that were seen by IEPA previously in the year.

Findings from the IEPA inspection are summarized below:

Area of concern	**Identified by IEPA May 2, 2012**
Gutters should be installed on the Heifer Barn at the dairy complex.	X
Concrete curbing should be installed at the concrete manure storage structure for the Heifer Barn at the dairy complex.	X
Gutters and runoff control should be considered for the bull calf exercise lots.	X
Runoff controls should be considered for the concrete feedlots at the southwest portion of the dairy complex.	X
Concrete curbing should be installed to better control runoff from the concrete manure storage structure for the east heifer barn at the Darrell Road Facility.	X

The content of the inspection report is summarized below:

General Information

Included in Report?	**IEPA inspection May 2, 2012**
Date and time of inspection	Yes
Type and purpose of inspection	Yes
Facility information	Yes
NPDES or other ID number	N/A Facility is not permitted, no other ID number available.
Inspection participants listed	Yes

Facility Information

Included in Report?	**IEPA inspection May 2, 2012**
Facility description and areas evaluated	Yes
Description of NPDES regulated activities pertinent to the inspection	Yes
Regulated areas evaluated during inspection	Yes

Inspector Observations and Documentary Support of Observations

Included in Report?	**IEPA inspection May 2, 2012**
Narrative description of field activities conducted	Yes
Permit requirement	Yes
Observations made regarding permit requirements	Yes
Information to support the observations that are made	Yes
Inspection checklists	Yes. Illinois Environmental Protection Agency Livestock Facility Inspection Checklist
Corrective actions	N/A
Report date and signatures	Signature only

Inspection Report Sufficiency

INSPECTION	EVALUATION
IEPA inspection May 2, 2012	The information contained in the inspection report is sufficient for making a compliance determination.

Signature: _____ **Date:** 1/7/13

Attachment:

IEPA Rockford Region Agricultural field Investigation Report, May 2, 2012
EPA Compliance Evaluation Inspection Report, September 5, 2012
EPA Aerial photograph of Golden Oaks Farm's Dairy – Attachment A
EPA Aerial photograph of Golden Oaks Farm's Whipple Farm – Attachment B
EPA Aerial photograph of Golden Oaks Farm's Darrell Road Facility – Attachment C
EPA Aerial photograph of all Golden Oaks Farm's facilities and waterways to the Fox River – Attachment D

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

Rockford Region Agricultural Field Investigation Report

File:	Golden Oaks Farms
County:	Lake
Date:	May 2, 2012
Address:	27730 W. Bonner Road – P.O. Box 37
	Wauconda, IL 60084
Phone:	847-526-6644 (office)
	Exemption 6 and Exemption 7C
Receiving Stream:	Mutton Creek
Persons Interviewed:	Tom Patterson and Jim Kirby
Inspectors:	Kirk W. Bergstrom and Lee Heeren
Weather:	60 deg F, cloudy

BACKGROUND

On the above date, an inspection was made of the dairy facility. IEPA records indicate that a reconnaissance visit was performed by Lee Heeren on October 10, 2002.

Rain preceded the visit, and some standing water was observed during the inspection. Mr. Patterson reported that rainfall totaled 0.3 inch during the previous 24 hours. Biosecurity measures were discussed with Mr. Patterson, and disposable boots were worn during the visit. The inspection started at 10:00 AM with a meeting at the dairy office. Inspections of the dairy and related waste handling facilities were followed by visits to the compost facility, Darrell Road heifer facility, and the Whipple Farm. A facility vehicle was used for transportation between the dairy and other related facilities.

OBSERVATIONS

Dairy – 27730 W. Bonner Road

Golden Oaks Farms is a large, modern dairy in a heavily-populated suburban county. The dairy is a high profile operation with extensive community involvement, including frequent public tours. The dairy complex covers approximately 80 acres, and Golden Oaks Farms includes 1200 acres of surrounding cropfields.

Milking cows are housed in the north freestall barn. The barn has a capacity of 450 animals. The south freestall barn is a transition barn for 180-200 birthing, pre-fresh, and sick animals. The breezeway between the barns houses approximately 12 genetically superior animals.

Milking is 24 hrs/day, and cows are milked three times per day in the double-12 herringbone parlor. The facility reportedly produces 50-52,000 lbs/day. Milking parlor wastewater is stored in two 5000-gallon tanks for reuse in the manure/sand separation operation.

Sand bedding is used in the freestalls. Alleys are manually scraped to a central flume. A scraper system pulls the manure within the flume to the sand separation building. Manure is then deposited in the 24 ft diameter x 16 ft. deep concrete tank. Two agitators in the concrete tank keep the sand suspended until the piston pump transfers the manure slurry to the Tru Grit manure sand separator. Separated and washed sand is augured into a stockpile to air dry before reuse as bedding. Liquid runoff from the stockpile flows back to the concrete tank. The manure slurry flows to two sand settling lanes for further removal of the fine sand and manure solids. Fine sand and manure solids are periodically hauled to the neighboring composting operation. An air lift system transfers liquid waste to the 7 MG lagoon. If the air lift system fails, this pump station will overflow to the 24x16 ft concrete tank in the sand separator building.

One 7.1 MG lagoon provides approximately 6 months storage for the liquid waste. The 7.1 MG capacity does not include the upper 2 ft of freeboard. The earthen lagoon has a clay and synthetic liner. The lagoon was nearly empty, and several bulges caused by gas pockets were observed. The lagoon is fenced and has gates and concrete ramps to facilitate pumping. Lagoon berms are vegetated with no shrubs or trees, and no evidence of burrowing animals was observed. Mr. Patterson reported that plans may include the construction of a smaller concrete lined lagoon that could function as a primary lagoon.

The heifer barn is at the south end of the facility and houses 100 heifers. The barn is an open confinement structure with earthen feedlots. Sand laden manure is pushed to the concrete structure at the east end of the barn and then hauled to the compost facility daily. The roof runoff falls on the earthen feedlots. Runoff from the barn and surrounding area flows to a vegetated area to the east and then to cropfields.

The bull calf shed is a converted chicken shed with 12 small pens for 24 animals. Runoff from this area flows to the driveway and then to a vegetated area. No discharge to surface water or wetlands was observed, but runoff controls should be constructed. The structure appears to be nearing the end of its useful life.

The old farm buildings and concrete feedlot house the genetically superior heifers and milking cows. The dry cow barn at this site has alleys with two push-off ramps to a lean-to structure at the north end of the barn. Runoff from the concrete lot flows to a vegetated ditch and then to the north pasture. Manure solids were observed in the vegetated ditch, and some standing water was observed in the pasture. The pasture slopes downhill toward a forested area where the Mutton Creek backwater is located, and this backwater is approximately 500 feet from the old farm buildings. The north and south pastures are each used for 25 heifers. Concrete pads are located at the feed bunks, and this area is reportedly scraped twice per week. Portions of the pastures were denuded, but no evidence of runoff of manure wastewater was observed.

Approximately 110 calf hutches are located south of the freestall barns. Runoff from this area flows to a vegetated area and then to the north pasture.

Approximately 12,000 tons of corn silage is stored on a pad. Bunker silos are used to store haylage, oatlage, and high moisture corn. Ground hay, straw, and cottonseed are stored in a commodity shed. Liquid molasses and whey are stored in bulk tanks. Runoff from the feed storage area flows south to a ditch that leads to a detention basin/vegetated filter. The first cell of the basin has an overflow pipe to the second cell. Mr. Patterson reported that the flow does not reach the second cell. Mutton Creek is downgradient from the second cell, and no liquid was observed in this area of the filter during the inspection. A hay barn is under construction to store large square bales.

Mortalities are removed by a rendering service. No mortalities were observed during the inspection.

A Nutrient Management Plan was available for review during the inspection. Some of the records are being updated. Mr. Patterson reported that an agronomist works with Mauer Stutz to determine the field application rates. Liquid waste is land applied by dragline injection to 1200 acres of adjoining cropfields by a custom applicator. The land application rate is 15-20,000 gal/acre based on the crops and soil analysis. Cropfields are approximately 1000 acres corn, 80 acres of wheat, and 120 acres of alfalfa. Three manure analyses are performed during each land application. Soil test results are on file. All bedding and solid waste is transferred to the compost facility. No surface application of solid waste is performed.

Mutton Creek flows north of the facility and then flows approximately 1 mile to Island Lake. The Lake County plat maps identify the backwaters of Mutton Creek as Golden Oaks Farm Lake. Runoff from the facility enters vegetated areas and cropfields and must then flow approximately 500 feet before entering Mutton Creek. Mutton Creek is at the north end of the detention basin and vegetated filter for the silage bunker runoff. The north pasture and the 7 MG lagoon are approximately 400 feet from Golden Oaks Farm Lake. Delineated wetlands are located within 500 feet of the facility. No discharges to surface water, wetlands, ditches or manmade conveyances were observed during the inspection. A storm water detention basin is located west of the freestall barns to capture clean water runoff from freestall barn roofs and surrounding area.

Heifer Facility - 29751 N. Darrell Road

This site is approximately 1 mile northwest of the dairy complex. Calves are transferred from the hutches at the dairy complex to the east barn at the Darrell Road facility. The east barn is a bedpack barn with a concrete containment structure for solid waste on the east end of the barn. The north and west barns are freestall barns for the older heifers. The alleys for these barns are manually scraped to a flume, and recycled wastewater is used to flush the flumes back to the 4000-gallon reception pit. Liquid waste is then pumped to a 1.2 MG concrete ground storage tank. Waste is dragline injected to surrounding cropfields.

Whipple Farm - 29940 N. Darrell Road

This site is approximately 1.25 miles northwest of the dairy complex at the southwest corner of Case Road and Darrell Road. The site houses dry cows and some heifers. The Whipple Farm has loose housing, a concrete feedlot, and an earthen feedlot/pasture. A 14-acre pasture is

available during summer months. The pasture along Case Road is denuded, but no evidence of runoff was observed during the inspection. The concrete lot is cleaned three times per week. Waste is transferred to the compost facility.

Midwest Organics Recycling – Composting Facility

This site is regulated by the IEPA-Bureau of Land with inspections delegated to the Lake County Health Department. The facility is identified by BOL ID #0978145004, Landscape Waste Permit 2005-062 DEOP, and Permit Log 2012-058.

The site was visited following the dairy complex inspection to observe the handling and storage of manure, bedding, and manure-laden fine sand that is transferred from the dairy to the compost operation. These dairy waste products are processed with landscape waste and horse manure and then composted in windrows. Runoff and leachate from the unloading/mixing area flows to a vegetated filter east of the receiving area.

FINDINGS and CONCLUSIONS

An exit interview was performed. No violations were noted. Based on the observations during this inspection, an NPDES permit is not required. The following items/concerns were reviewed:

Dairy – 27730 W. Bonner Road

1. It is recommended that eave gutters be installed to divert clean water away from the earthen lots for the heifer barn at the dairy complex.

2. In order to better control runoff from the concrete manure storage structure for the heifer barn at the dairy complex, it is recommended that concrete curbing be installed.

3. Runoff from the bull calf exercise lots flows to a vegetated area uphill from the wetland area on the east side of the facility. Although no evidence of a discharge to surface water was observed, it is recommended that eave gutters be installed to divert clean water and that construction of a runoff control structure be considered. As an alternative, abandonment of this structure should be considered.

4. Runoff from the concrete feedlots at the southwest portion of the dairy complex flows through a vegetated "settling" ditch and then to the north pasture. No channelization or evidence of a discharge was observed. However, to better control runoff and to reduce the likelihood of a discharge, it is recommended that the following be considered: a) improvement or reconstruction of the settling ditch, b) maintenance of vegetation in the pasture to reduce channelization, and c) construction of vegetated berms at the west end of the north pasture.

Heifer Facility - 29751 N. Darrell Road

1. In order to better control runoff from the concrete manure storage structure for the east heifer barn, it is recommended that concrete curbing be installed.

No violations or concerns were noted at the Midwest Organics Recycling facility or at the Whipple Farm - 29940 N. Darrell Rd. Mr. Patterson indicated that he plans to send a written response to these concerns and recommendations. The inspection concluded at 2:30 PM.

Kirk W. Bergstrom, Engineer

KWB:svf

Attachments: Maps
Photos
Livestock Facility Inspection Checklist

cc: DWPC/FOS and Records Unit
WPC Sect Mgr/B. Yurdin
Rockford Region

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Livestock Facility Inspection Checklist

GENERAL INFORMATION

TYPE OF INSPECTION:
☒ CAFO ☐ COMPLAINT ☐ RECONNAISSANCE ☐ ERU FOLLOW UP ☐ OPERATOR REQUEST ☐ OTHER

FACILITY NAME (LLC, Inc., Corp, Partnership, sole proprietorship, etc.)	INSPECTION DATE	ARRIVAL TIME
Golden Oaks Farm, LLC	**5-2-12**	**10:00 AM**

ADDRESS	INSPECTOR(s)	DEPARTURE TIME
27730 W. Bonner Road - P.O. Box 37	**K. Bergstrom/L. Heeren**	**2:30 PM**

CITY	STATE	ZIP CODE	ACCOMPANIED BY (if applicable)
Wauconda	**IL**	**60084**	

COUNTY	SECTION	TOWNSHIP	RANGE	POLITICAL TOWNSHIP	TEMPERATURE	PRECIPITATION TYPE
Lake	**NE 22**	**44N**	**9E**	**Wauconda**	**65 deg F.**	**Cloudy, rain**

Facility Owner(s):
☐ Same as Facility

NAME	CONTACTED	PHONE	MOBILE
Tom Patterson, President	☒ YES ☐ NO	Exemption 6 and Exemption 7C	Exemption 6 and Exemption 7C

ADDRESS	CITY	STATE	ZIP CODE
27730 W. Bonner Road	**Wauconda**	**IL**	**60084**

NAME	CONTACTED	PHONE	MOBILE
Jim Kirby	☒ YES ☐ NO	Exemption 6 and Exemption 7C	

ADDRESS	CITY	STATE	ZIP CODE

Facility Operator(s):
☐ Same as above

NAME	CONTACTED	PHONE	MOBILE
	☐ YES ☐ NO		

ADDRESS	CITY	STATE	ZIP CODE

NAME	CONTACTED	PHONE	MOBILE
	☐ YES ☐ NO		

ADDRESS	CITY	STATE	ZIP CODE

NPDES PERMIT INFORMATION (If no NPDES Permit, skip this section)

1. What type of NPDES permit has been issued? ☐ Individual NPDES Permit ☐ General NPDES Permit	NPDES #	
2. What date was the NPDES permit issued?		
3. What date does the NPDES permit expire?		
4. Is a copy of the NPDES permit onsite?	☐ YES	☐ NO
5. Permitted number of animals (no. & specie)?		
6. Does the NPDES Permit contain a compliance schedule?	☐ YES	☐ NO
7. Have there been any changes made to the production area since the permit was issued?	☐ YES	☐ NO

If "YES", provide a detailed description of those changes.

None

LAND APPLICATION/NUTRIENT MANAGEMENT		
1. How many TOTAL acres are available for land application? **1200** acres		
2. How many acres are READILY available for land application at the time of inspection? **1200** acres		
3. Estimated annual quantities of liquid waste **15.2M** gallons		
4. Estimated annual quantities of solid waste _____ tons		
5. Does the facility have a contractor perform land application? If "YES", Name of Contractor: _____	☒ YES	☐ NO
6. What type of land application equipment is available to the facility? ☒ Umbilical Injection ☐ Honeywagon Injection ☐ Honeywagon Surface ☐ Irrigation ☐ Rotational Gun ☐ Manure Spreader ☐ Vegetative Filter ☐ Other _____		
7. Does the facility calibrate the land application equipment? If "YES", What method is used? **Flow meter w/GPS tracking**	☒ YES	☐ NO
8. Does the facility land apply within the 150 foot setback from any water well? If "YES", Explain	☐ YES	☒ NO
9. Does the facility land apply within the 200 foot setback from any surface water? If "YES", Explain	☐ YES	☒ NO
10. Does the facility land apply near any residences? If "YES", Explain **All liquid waste is injected**	☒ YES	☐ NO
11. Is livestock waste transferred off-site to another party? If "YES", Are records of manure transfers kept? If "YES", Ask to see records	☐ YES ☐ YES	☒ NO ☐ NO
12. Does the facility have a current NMP or CNMP? If "YES", Does the facility maintain a copy of the nutrient management plan (NMP) onsite?	☒ YES ☐ YES	☐ NO ☐ NO
13. Does the NMP reflect the current operational characteristics (number of animals, cropping, etc.)?	☒ YES	☐ NO
14. Are the number of acres owned/leased consistent with those in the NMP?	☒ YES	☐ NO
15. Is manure and wastewater being applied in accordance with setback/buffer requirements of the NMP?	☒ YES	☐ NO
16. Are all of the records identified in the NMP being maintained and kept current?	☒ YES	☐ NO
17. Are records being maintained at the required frequency?	☒ YES	☐ NO
18. Are records being maintained onsite for the period required by NMP and/or NPDES permit?	☒ YES	☐ NO
19. Is the NMP adequately addressing the storage, handling and application of manure and wastewater to prevent discharges to waters of the U.S.?	☒ YES	☐ NO

LIVESTOCK FACILITY DESCRIPTION

Type of Animals	Number of Animals (currently)	Animal Capacity	Type of Confinement	Number of Structures
DAIRY MILKING	450	450	TOTAL CONFINEMENT BDG N.Barn	1
DAIRY DRY	200	200	TOTAL CONFINEMENT BDG S.Barn	1
DAIRY MILKING	12	12	TOTAL CONFINEMENT BDG Breezwy	1
DAIRY DRY	65		TOTAL CONFINEMENT BDG OldBarn	2
DAIRY DRY	50		VEGETATED PASTURE	
CALVES	110		OPEN CONFINEMENT BUILDING	
DAIRY DRY Darrell Rd	550	550	TOTAL CONFINEMENT BDG	3
DAIRY DRY Heifer Barn	100	100	OPEN CONFINEMENT BUILDING	1
DAIRY DRY	100		OPEN CONFINEMENT BUILDING	1
CALVES Bull	24	24	OPEN CONFINEMENT BUILDING	

Does the facility have an Illinois Certified Livestock Manager (300 or greater animal units)?	☐ N/A	☒ YES	☐ NO
If greater than 1000 animal units but less than 5000 animal units, does the facility have a waste management plan?	☐ N/A	☒ YES	☐ NO
If greater than 5000 animal units, has the facility submitted a waste management plan to IDOA for review?	☒ N/A	☐ YES	☐ NO
Does the facility have any other locations under common ownership, or where equipment and/or manure is shared, or where the other site shares land application sites? If so, put names and addresses below. **None**		☐ YES	☒ NO

LIVESTOCK WASTE STORAGE

1. Does the facility have any existing livestock waste containment system? ☒ YES ☐ NO
   If NO, then proceed to question 10.

2. General description of the waste containment system (include solid and liquid manure handling, mortality, and feed storage areas).

   A cable-pulled scraper drags waste from the freestall barns at the dairy to a sand separator building (ground tank, separator, settling lanes) and liquid waste is then pumped to the 7 MG lagoon.

   The Darrell Rd heifer facility has two confinement buildings with alleys that are scraped to a flume that is flushed to a reception pit and 1.2 MG concrete ground tank.

   A vegetated filter/detention pond is downhill from the feed storage area.

Type of Storage	Total Storage Capacity (Specify Units)
☒ Anaerobic Lagoon	**7 MG lagoon**
☐ Covered Lagoon	
☐ Holding Pond	
☐ Above Ground Storage Tank ("Slurrystore")	
☒ Below Ground Storage Tank	**1.2 MG tank @ Darrell Rd heifers**
☐ Settling Basin	
☐ Roofed Storage Shed	
☐ Concrete Pad	
☐ Impervious Soil Pad	
☐ Underfloor Pits	
☐ Anaerobic Digester	
☒ Manure Stacks	**At compost facility**
☐ Vegetative Filter	
☐ Other _____	
☐ None	

3. Do the storage structures have depth markers or staff gauges? ☐ YES ☒ NO

4. Are levels of manure in the storage structures recorded and records kept? ☐ YES ☒ NO

5. Do the storage structures have adequate freeboard? ☒ YES ☐ NO

6. Estimated final stage storage structure freeboard _____ in. of total depth _____ in.

7. Do facility personnel perform routine visual inspections of the storage structures? ☒ YES ☐ NO

8. Are the routine visual inspections documented? ☒ YES ☐ NO

9. Does the system have an outfall or discharge point? ☐ YES ☒ NO

If "YES", please provide a description (overflow pipe, spill way, etc. Include a description the area receiving the discharge).
None

10. Are there any portions of the production area where runoff is not controlled? ☐ YES ☒ NO

If "YES", provide a detailed description of the area(s) of concern:
None

MORTALITIES MANAGEMENT

1. How are mortalities managed? (Composted, buried, burned, rendering service, other)
Rendering service

2. Are mortalities documented and are records kept? ☒ YES ☐ NO

FACILITY WATER SOURCES

1. What type of method is used to provide drinking water for the animals?
   ☒ Overflow waters ☐ Tip Tanks ☐ Nipple waters ☐ Water Bowls ☐ Other _____

2. How is the water for animals obtained?
   ☐ Community PWS ☒ On-Site Well ☐ On-Site Impoundment ☐ Other _____

3. Is a mist cooling system used? ☒ YES ☐ NO
   How is mist water contained?
   Evaporative coolers in dairy freestall barns do not normally discharge. Any excess water will fall to alleys and be scraped to flumes and waste handling.

DAIRY OPERATION (If No Dairy, skip this section)

1. How many times per day are cows milked? **3**

2. Describe how the dairy's non-contact cooling water is contained (Example: it is reused for drinking water for the animals).
   Milking parlor waste and cooling waste water is used in the sand separation operation or discharges to flumes in freestall barn. All parlor waste eventually flows to the 7 MG lagoon.

3. Describe how the milking parlor is cleaned (hose or flush) and where the process wastewater goes and how it is contained.
   See above

4. Describe how the tank(s) are washed and where the process wastewater goes and how it is contained.
   See above

5. Describe where process wastewater from the plate cooler goes and how it is contained.
   See above

BEDDING (If No Bedding, skip this section)

1. Describe what type of bedding is used for the animals.
   Sand is used in freestall barns. Straw and stalks are used at some sites.

2. Describe how bedding is collected and how often.
   Bedding is scraped daily and hauled to raw pile at adjoining Midwest Organics composting site.

3. What is done with the used bedding? ☒ Reused ☐ Land Applied

MANURE COLLECTION

1. How is manure collected?

- ☐ Under Floor Pit
- ☒ Scraped: ☒ Automatic ☒ Manual
- ☒ Flush
- ☐ Solids Separator
- ☐ Other: _____
- ☐ None

2. If manure collection system uses either clean or reused water to flush, describe where this water goes and how it is contained.

Wastewater is pumped from the reception pit at the Darrell Rd site to flush the flumes back to the reception pit.

FEED STORAGE CONTAINMENT

1. Describe how feed (silage, hay, etc) is contained.

- ☐ Bulk Bins
- ☒ Silage Pit
- ☐ Ag Bags
- ☐ Hay: ☐ Barn ☐ Outdoor
- ☒ Other: **tanks**

2. Describe how feed (silage, hay, etc) runoff is contained.

- ☐ Not Applicable – Feed totally enclosed
- ☒ Other: **pond to filter strip (~350'x120'x4' pond; 3 ac. filter strip)**
- ☐ None

RECEIVING SURFACE WATERS

1. Provide a description of the flow path from the facility to the nearest named surface water.

Mutton Creek flows along the north side of the facility. Runoff will flow through pastures, cropfields, forest and other vegetated areas to Mutton Creek or unnamed intermittent tributaries.

2. What is the name of the receiving stream?

Mutton Creek

3. Status of the named surface water: ☐ Intermittent ☒ Perennial

4. Are any unnatural bottom deposits observed in the receiving stream: ☐ YES ☐ NO

If "YES", provide a description of the deposits: **None**

DISCHARGES		
1. Have there been any documented discharges of livestock waste to surface water ***in the past year***? If "NO" proceed to question 2.	☐ YES	☒ NO
a. If "YES", specify the date(s). _____		
b. What was the reason for the discharge?		
c. Was the discharge the result of a 25 year-24 hour rainfall event?	☐ YES	☐ NO
d. What was the precipitation amount? *(if applicable)*		
e. Was IEMA notified of the discharge?	☐ YES	☐ NO
f. Has the facility taken corrective action to remedy the situation which caused the discharge(s)?	☐ YES	☐ NO
If "YES", describe actions taken: **None**		
2. Is the facility currently discharging livestock waste from the production area? If "NO" proceed to next section.	☐ YES	☒ NO
a. Was the discharge the result of a 25 year-24 hour rainfall event?	☐ YES	☐ NO
b. What was the precipitation amount? *(if applicable)*		
c. What is the reason for the discharge?		
d. Were water quality samples taken?	☐ YES	☐ NO
e. If "YES", how many? _____		
f. What parameter(s) tested? ☐ pH ☐ Ammonia ☐ Nitrate ☐ Nitrite ☐ Phosphorus ☐ BOD_5 ☐ Total Susp Solids ☐ Fecal ☐ Diss O_2 ☐ Other _____		

BIOSECURITY – Inspection Activities			
1. Were biosecurity measures discussed with the facility prior to inspection?		☒ YES	☐ NO
2. Has there been 24-hours downtime between inspections for all IEPA personnel present?		☒ YES	☐ NO
3. Was the order of inspection conducted from high risk to low risk?	☒ N/A	☐ YES	☐ NO
4. Did all personnel stay outside livestock management and livestock waste handling facilities as defined in 35 IAC 501.285 and 35 IAC 501.300? If "YES" skip to question 7.		☐ YES	☒ NO
BIOSECURITY – Personal Protection Equipment			
5. Was sanitary footwear donned prior to entering the livestock management/waste handling facility(s)?	☐ N/A Did not Enter	☒ YES	☐ NO
6. Were disposable coveralls donned prior to entering the livestock management/waste handling facility(s)?	☐ N/A Did not Enter	☐ YES	☒ NO
7. Was sanitary footwear used during the inspection?		☒ YES	☐ NO
8. Was disposable sanitary outerwear disposed at the facility?		☐ YES	☒ NO

BIOSECURITY – Vehicle			
9. Was the vehicle parking location discussed with the facility prior to inspection?		☒ YES	☐ NO
10. Was the vehicle washed since the inspection prior to current? If "YES" skip to question 12.		☒ YES	☐ NO
11. Was the vehicle parked >300-feet from the livestock management/waste handling facility? Explain where vehicle was parked: **The vehicle was parked at the office as instructed.**	☐ N/A	☐ YES	☒ NO
12. Was IEPA vehicle used on site?		☐ YES	☒ NO
13. Was facility vehicle used on site?		☒ YES	☐ NO
BIOSECURITY – Inspection Equipment			
14. Was all equipment wiped down with anti-bacterial wipes?		☐ YES	☒ NO
15. Was sample cooler kept inside vehicle during inspection? If "YES" skip question 16.		☒ YES	☐ NO
16. Was sample cooler wiped down with antibacterial wipes before placing back into vehicle?	☒ N/A	☐ YES	☐ NO

OTHER COMMENTS/NOTES

Please see the attached narrative for more information.

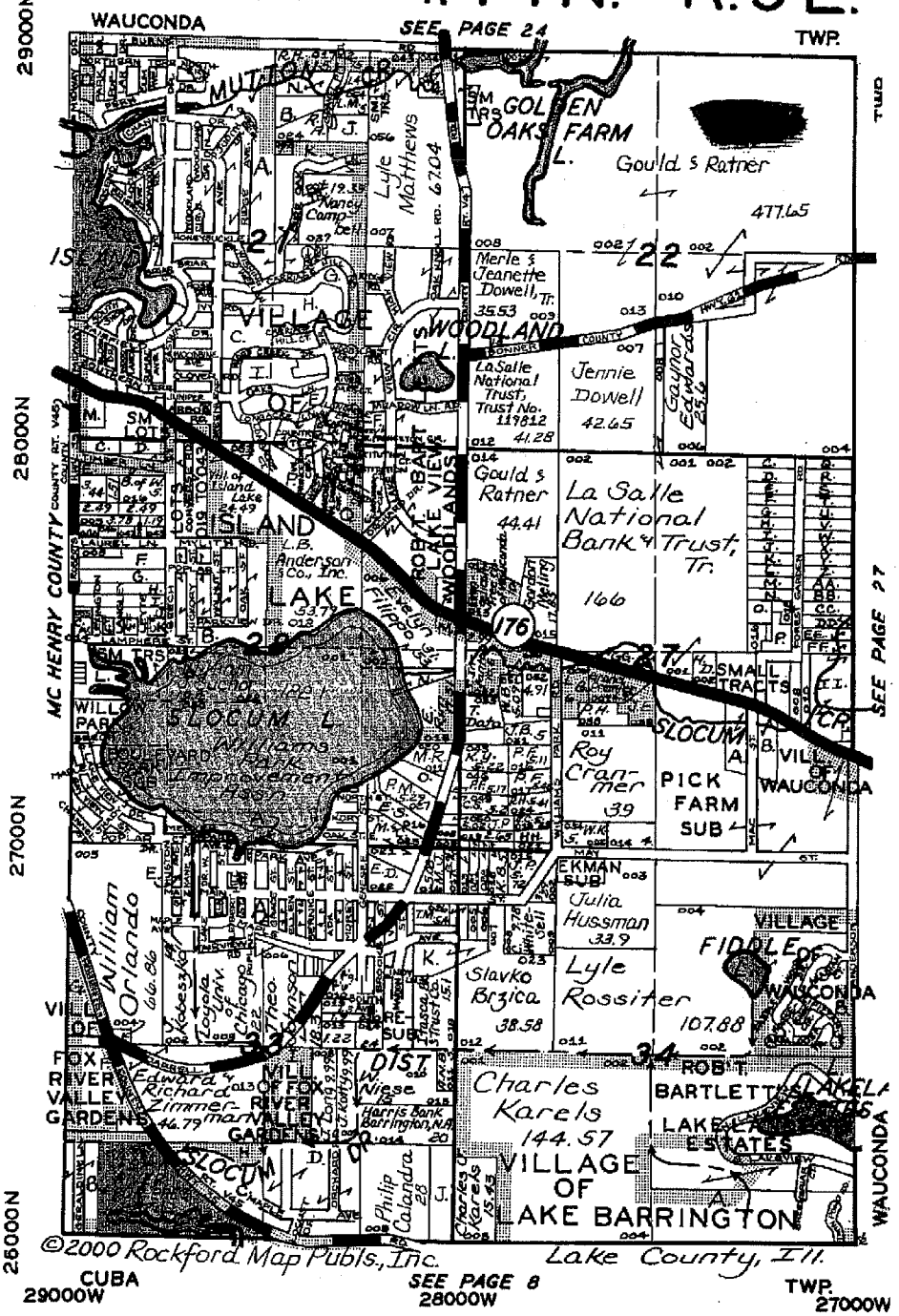
Check all attachments: ☒ Narrative ☒ Photos ☒ Site Plan ☐ Sample Results

INSPECTOR'S SIGNATURE	**REPORT DATE**
Kevin Bright	**5-2-12**

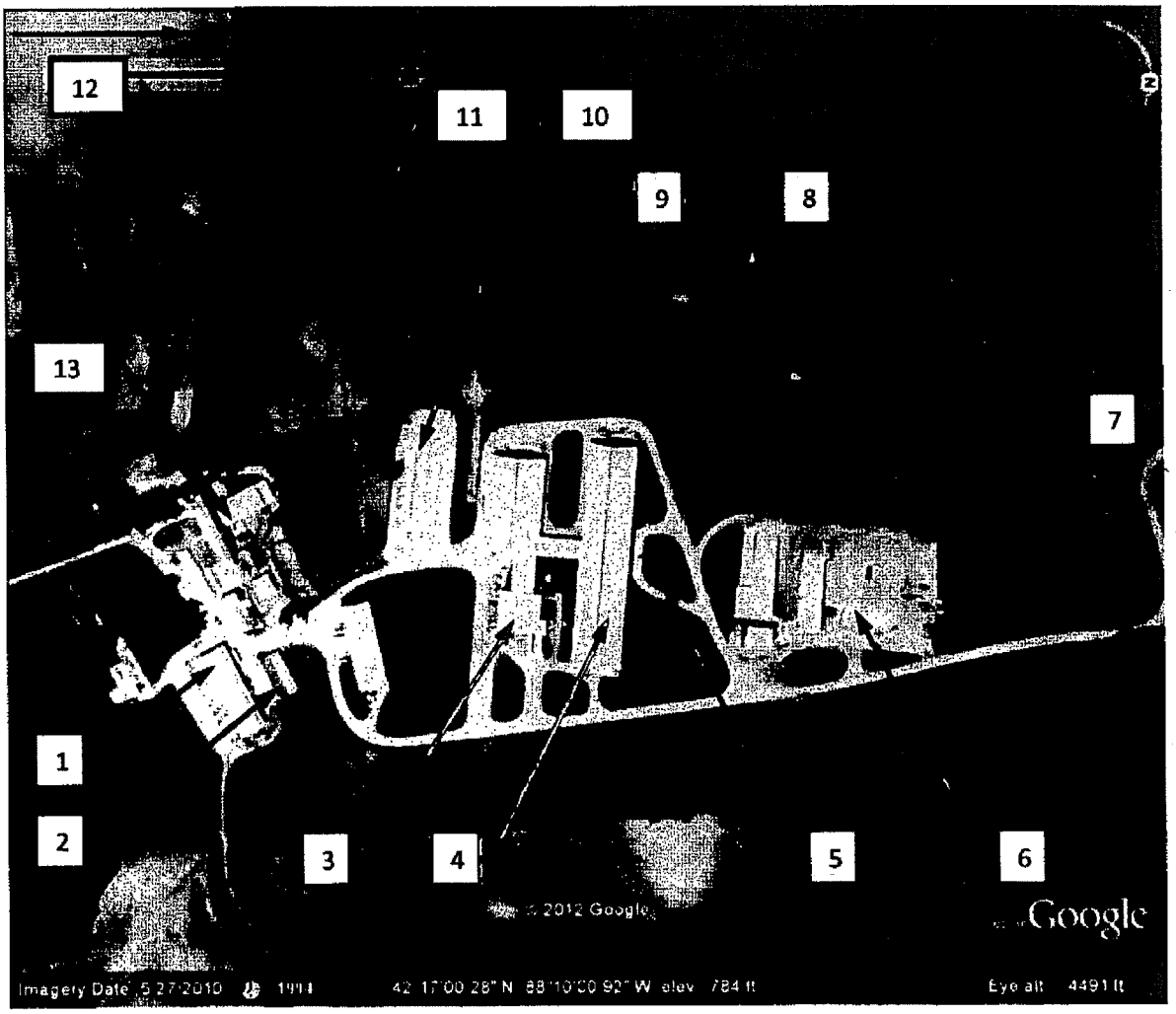
Cc: BOW/DWPC/RU
WPC Sect Mgr/B. Yurdin

Attachments:_____
Revised March 2012

SOUTHWEST PART WAUCONDA T.44N.—R.9E.

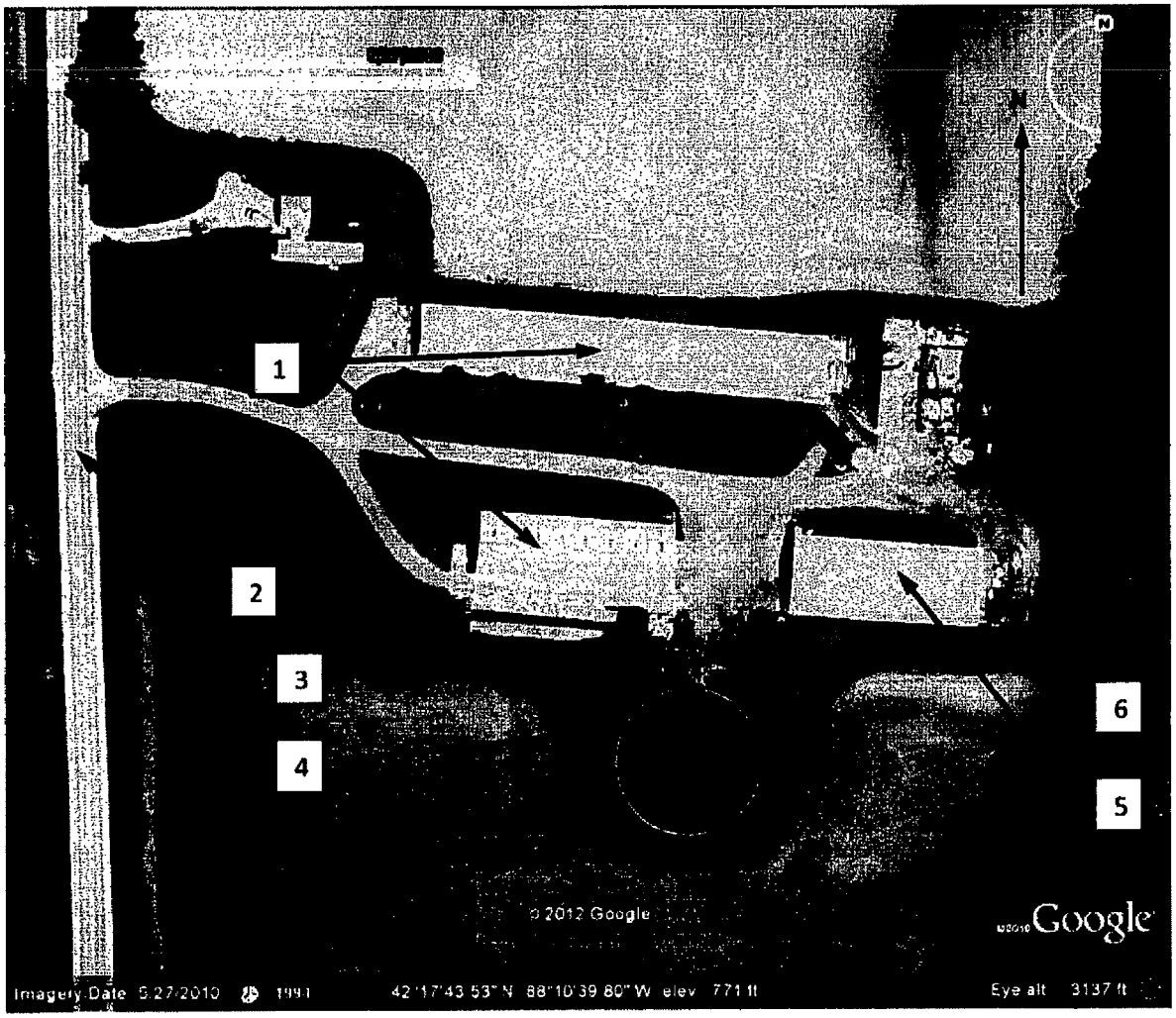


Golden Oaks Farms – 27730 W Bonner Road, Wauconda – 5/2/2012 Inspection



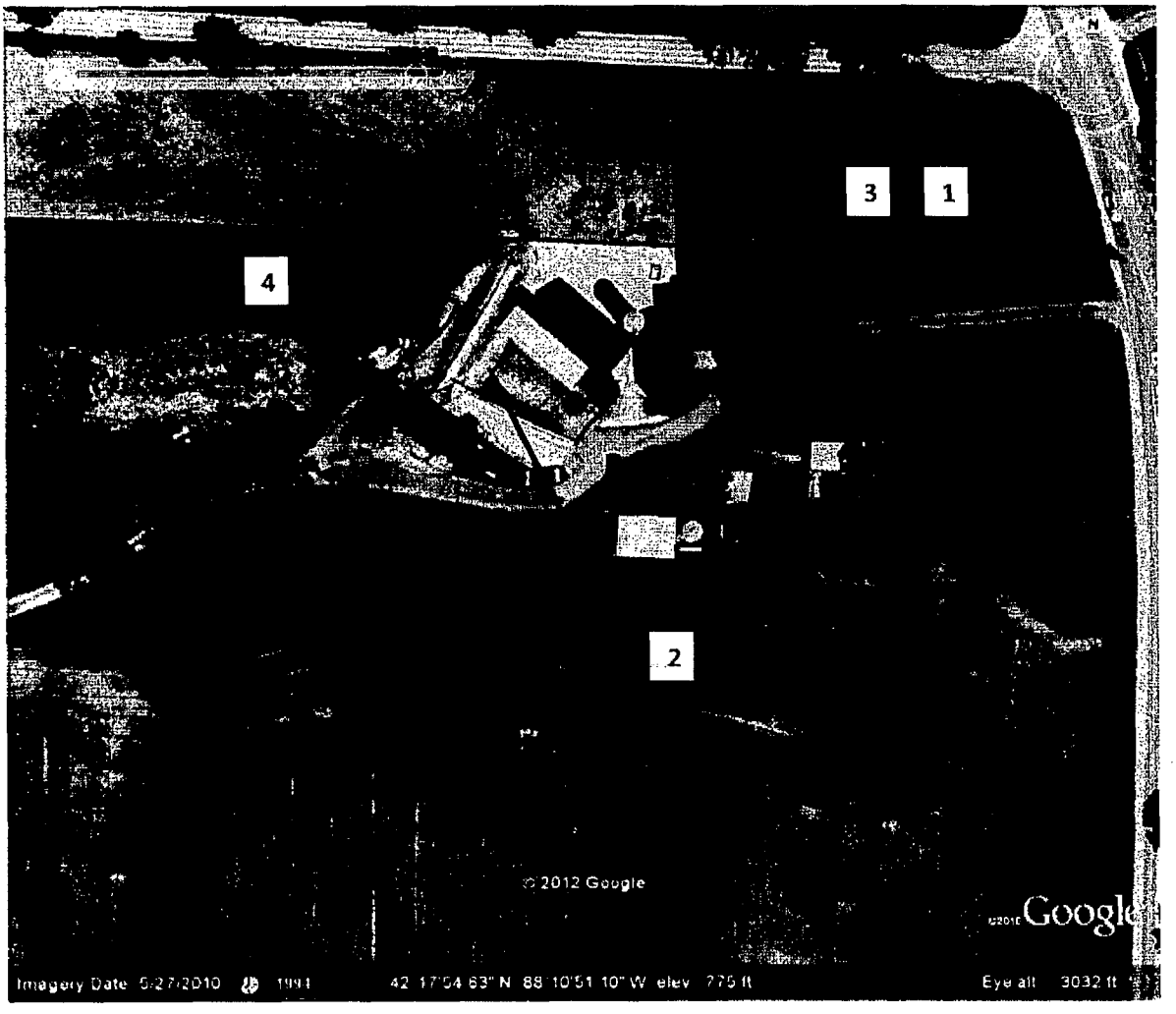
Map Point	Description
1	Heifer barn with earthen feedlots to south and concrete storage structure to east. Runoff flows to east.
2	Bull calf barn (old chicken barn). Runoff from outside lots flows to vegetated area to east.
3	Milking parlor and offices
4	North freestall barn for 450 milking cows. South freestall barn for 200 dry, pre-fresh, and treated cows
5	Sand separator building. Cable dragged scrapers move waste from the barns to an in-ground tank
6	Bunker silos, silage pad, and commodity storage area.
7	Filter strip/detention area for bunker silo and commodity storage runoff. The first cell flows to the west where an overflow pipe discharges to a secondary filter strip that runs to the north
8	7 MG earthen lagoon with geosynthetic liner. Air lift system transfers liquid waste from separator building to SE corner of lagoon.
9	Stormwater detention area (clean water)
10	Calf hutches. Runoff from this area flows to a vegetated area and then to the north pasture
11	Vegetated ditch downhill from concrete feedlots
12	North and south pastures for approximately 25 animals each
13	Old barn area with dry cow barn for 55-65 animals; barn, loose housing, and concrete feedlots for "genetic" animals and superior breeding stock. Runoff flows to vegetated ditch and then to pasture

Golden Oaks Farms – 29751 N Darrell Rd, Wauconda – 5/2/2012 Inspection



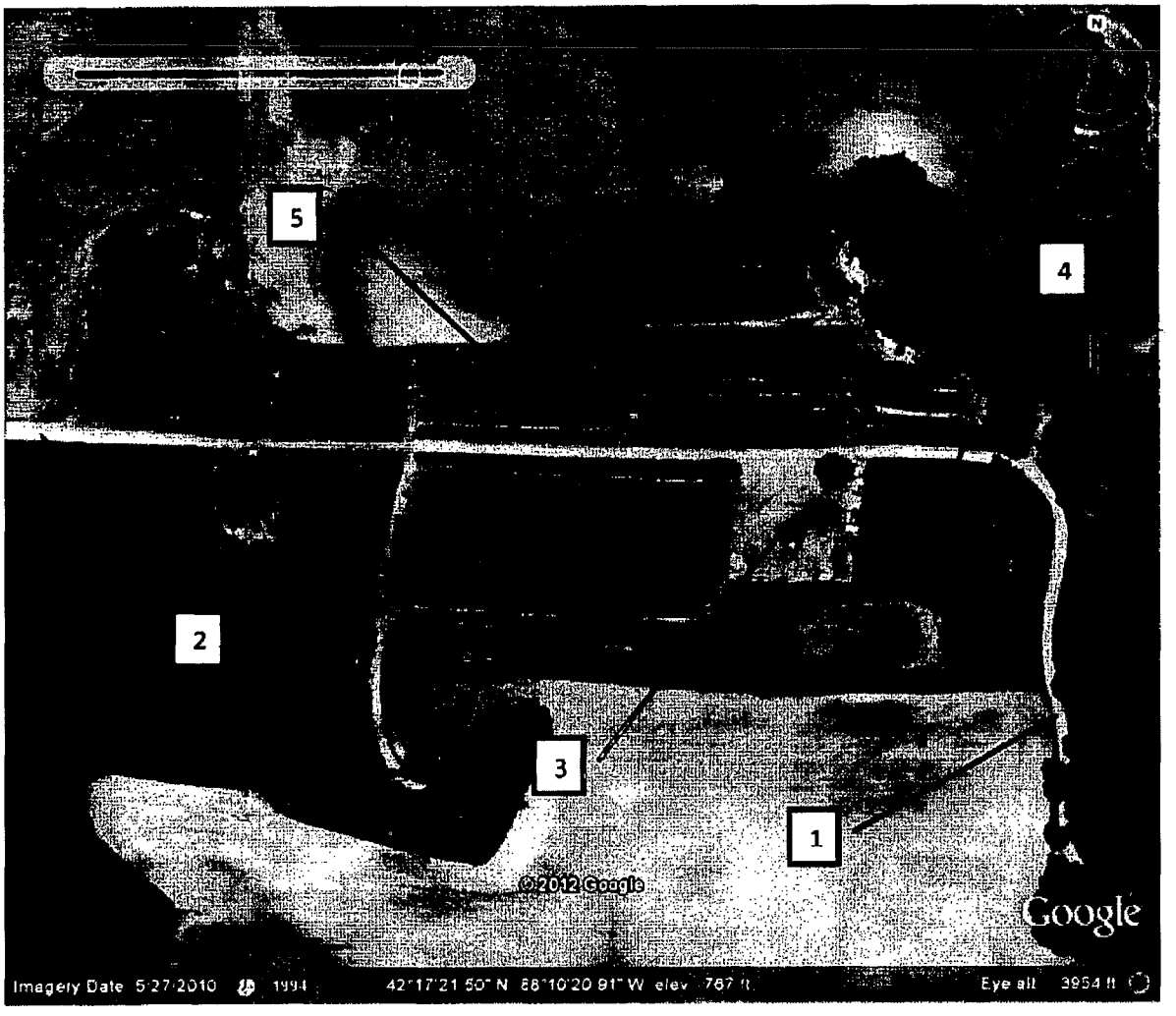
Map Point	Description
1	North and West heifer barns. Waste is manually scraped to a flume which is flushed to the reception pit using recycled wastewater from the reception pit.
2	Darrell Road
3	4000-gallon reception pit with pump to flush flumes.
4	1.2 MG concrete ground storage tank
5	Bedpack barn for young heifers that are transferred to this site from the calf hutches.
6	Concrete holding structure for solid waste from bedpack barn.

Golden Oaks Farms – Whipple Farm - 29940 N Darrell Rd, Wauconda – 5/2/2012 Inspection



Map Point	Description
1	Darrell Road – the Golden Oaks dairy complex is one mile southeast of this site
2	Loose housing and concrete feedlot
3	Denuded pasture north of concrete feedlot
4	Access to 14-acre pasture used by animals during summer

Golden Oaks Farms – Midwest Organics Recycling - 27730 W Bonner Road, Wauconda – 5/2/2012 Inspection



Map Point	Description
1	Access road to Golden Oaks Dairy
2	Driveway to Darrell Road
3	Receiving area for horse manure and bedding and landscape waste. Fine sand and dairy manure is brought from Golden Oaks for use in the composting process
4	Filter strip for runoff from composting operation
5	Compost windrows

CWA COMPLIANCE EVALUATION INSPECTION REPORT
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5

Purpose:
Compliance Evaluation Inspection

Facility:
Golden Oaks Farm
27730 W. Bonner Road
Wauconda, IL 60084

NPDES Permit Number:
N/A

Date of Inspection:
September 5, 2012

EPA Representatives:
Joan Rogers, Environmental Scientist 312-886-2785

State Representatives:
Lee Heeren, Ag Specialist 815-987-7760

Facility Representatives:
Tom Patterson, President Golden Oaks, LLC Exemption 6 and Exemption 7C

Report Prepared by:
Joan Rogers, Environmental Scientist 312-886-2785
Rogers.joan@epa.gov

Report Date:
January 3, 2013

Inspector Signature Joan M Rogers 1/7/13

BACKGROUND

The purpose of this report is to describe, evaluate and document the Golden Oaks Farm's compliance with the Clean Water Act (CWA) at its Wauconda, Illinois facility on September 5, 2012.

Golden Oaks Farm (Golden Oaks) is a dairy facility in suburban Lake County, Illinois. It is comprised of three separate locations: the Dairy, Whipple Farm (also known as Teddy's) and the Darrell Road Facility. Golden Oaks has approximately 710 mature dairy cows and approximately 500 heifers and calves. The facility is at capacity with this number of cattle. Due to the number of mature dairy cows, Golden Oaks is considered a large Animal Feeding Operation (AFO). By definition, all large AFOs are also Concentrated Animal Feeding Operations (CAFO).

The Dairy is approximately 0.20 miles east of an unnamed tributary which flows north to perennial Mutton Creek. The Darrell Road Facility lies approximately 0.10 mile to the north of an intermittent unnamed tributary that also flows to perennial Mutton Creek. Whipple Farm is located northwest of the Darrell Road Facility but does not have any adjacent waterways. Flow off Whipple Farm flows to the southeast though and eventually to the intermittent unnamed tributary by the Darrell Road Facility.

Mutton Creek flows approximately 1.3 miles and then its name changes to Cotton Creek. Cotton Creek flows an additional 2.7 miles until it reaches perennial Fox River. The Fox River is the nearest Traditional Navigable Water.

Mr. Kirk Bergstrom and Mr. Lee Heeren of the Illinois Environmental Protection Agency (IEPA) inspected the Golden Oaks Farm on May 2, 2012. No violations were noted during that inspection and it was not recommended that Golden Oaks apply for a National Pollutant Discharge Elimination System (NPDES) permit. Recommendations for tighter controls on the containment of manure and process wastewater were identified.

SITE INSPECTION

Arrival Time:	11:00 A.M.
Exit Time:	2:15 P.M.
Temperature:	80°F
Precipitation:	None on the day of the inspection but there was approximately 0.50" the previous evening.
Presented credentials?	Yes
Credentials presented to whom?	Mr. Tom Patterson
EPA vehicle parked in approved location?	Yes
Location where EPA vehicle was parked?	In front of the office.
Disposable boots worn?	Yes
Other bio-security measures taken:	None

Records Review (The following Records Review tables reflect information provided before the walk-through of the facility, unless otherwise noted.)

Checklist(s) Used
R5 CAFO Inspection Checklist
Federal CAFO Nutrient Management Plan Checklist
Facility Documents Reviewed:
Comprehensive Nutrient Management Plan (CNMP) – Although the full CNMP was not present at the facility as it was being updated by Maurer-Stutz.

Facility Description

Type of Animal	**Number of Animals**	**Capacity**	**Type of Confinement**
Mature Dairy	710	710	Freestall Barns
Heifers and Calves	500	500	Barns with open lots leading to pasture
Bulls	26	26	Barns with open lots and pasture
Minimum Number of Animals in previous 5 years:			710 mature dairy cows
Maximum Number of Animals in previous 5 years:			710 mature dairy cows
Number of Animals that are stabled/confined and/or fed/maintained for 45 days or more in previous 12 months:			710 mature dairy cows and approximately 500 heifers, calves and bulls
Amount of Manure Generated per year:			13 million gallons
(Illinois Only) Name of Certified Livestock Manager for facility: (if 300 animal units or greater):			Nate Jansen
Does the facility have an NPDES Permit?			No
Other facilities under common ownership (name and address):			
Darrell Road Facility Whipple Farm			

Livestock Waste Storage

Type of Storage	**Storage Capacity**	**Type of Liner**	**Depth Markers Present**	**Last Time Waste was Removed**	**Days of Storage**
Holding Pond (Dairy)	7.2 million gallons	Clay and synthetic	Yes	Spring 2012	Unknown
Storage Tanks for milking parlor wastewater	10,000 gallons			Pumped to the sand separation building for sand separation process.	Unknown

(Dairy)					
Concrete Circular Pit	54,000 gallons	Concrete	Yes	Ongoing	Unknown
Concrete Tank (Darrell Road Facility)	1.2 million gallons	Concrete	Yes	Unknown	Unknown
Reception Pit for Barns (Darrell Road Facility)	4000 gallons	Concrete	No	Regularly	N/A
Records at site of storage structure design?				Yes	
Additional Information:					

Livestock Waste Management

Describe the way manure is collected and disposed of at the facility: Dairy	Manure is manually scraped to a trench where it is automatically scraped to the Sand Separation Pit. The manure is pumped to the Sand Separator. Runoff from the used sand flows back to the pit. Liquid slurry is pumped to Settling Lanes where solids are recovered and composted. Liquids are land applied
Describe the way manure is collected and disposed of at the facility: Darrell Road Facility	Manure is manually scraped to a flume then gravity flows to Reception Pit. Manure is pumped from Reception Pit to Concrete Storage Tank.
Describe the way manure is collected and disposed of at the facility: Whipple Farm	Manure is scraped from pens and open lots several times per week and solids are composted.
Describe the way used bedding is collected and disposed of at the facility:	Dairy: Bedding is sand and is reclaimed and reused. Darrell Road Facility: Bedding is sawdust and is processed with the manure.
Describe the way mortalities are managed at the facility:	Rendered
Describe the way spilled drinking water is collected and disposed of at the facility:	Spilled drinking water is handled the same as the manure.
Describe the way mist cooling water is collected and disposed of at the facility:	Mist cooling water is handled the same as the manure.
Describe how chemicals are stored and how used or spilled chemicals are collected and disposed of at the facility:	Chemicals are stored in the Mechanics Room and a drain is connected to the manure system.
Describe the way water that has been used to wash/flush barns is collected and	Barn wash water is handled the same as the manure.

disposed of at the facility:	
Describe the way feed is contained and how runoff from feed is collected and disposed of at the facility:	Feed is stored in concrete bunkers. Runoff of silage leachate flows off the concrete bunker to a vegetated filter.
If a dairy, describe how process wastewater from the plate cooler water is collected and disposed of at the facility:	Plate cooler water is collected in (2) 5000 gallon holding tanks and is reused in the sand separation process.
If a dairy, describe how process wastewater from the cleaning of the milking parlor is collected and disposed of at the facility:	Milking parlor wastewater is collected in (2) 5000 gallon holding tanks and is reused in the sand separation process.
If a dairy, describe how process wastewater from the cleaning of the milk tanks is disposed of at the facility:	Tank wash water is collected in (2) 5000 gallon holding tanks and is reused in the sand separation process.

Land Application and Disposal of Manure and Process Wastewater

Number of acres available for land application	1800 acres
Are land application records kept?	Yes
Is manure transferred off-site to another party?	No
Are manure transfer records maintained?	N/A

Receiving Surface Waters

Describe the surface flow pathways	Facility lies approximately 0.20 miles away from unnamed tributaries of perennial Mutton Creek. Mutton Creek flows 1.3 miles until it changes names to Cotton Creek. Cotton Creek flows 2.7 miles west to perennial Fox River.
How many months out of the year is there flow in the nearest surface water pathway:	12 months
Are there any storm water pathways entering the facility?	No
Are there any clean water ponds on site?	Yes
What is the name of the first Traditional Navigable Water (TNW) for surface flow from the facility?	Fox River
Is the surface water pathway nearest to the facility considered to be ephemeral, intermittent or perennial?	Perennial
Is the surface water pathway nearest to the facility considered to be impaired?	Unnamed tributaries and Mutton Creek are not listed on the 303d list of impaired waterways.

Nutrient Management Plan

NMP on site?	Part of the NMP was on site. The rest was being updated by Maurer-Stutz and was not at the facility.
Date NMP Submitted:	June 9, 2009
Planner Name/Company:	Maurer-Stutz
Storage Description:	7.2 million gallon holding pond with clay and synthetic liner at the Dairy. 1.2 million gallon concrete storage tank at the Darrell Road Facility. Reception pit at Darrell Road Facility with float system for pumping the pit to the Storage Tank. (2) 5000 gallon storage tanks for process wastewater from the milking parlor and milking tank wash water and the plate cooler water.
Amount of Manure Generated:	13 million gallons
Amount of Storage:	8.4 million gallons
Duration of Storage:	Unknown
Amount of Spreadable Land:	1800 acres
Mortality Management Plan:	Rendering service
Clean Water Diversion System:	Did not observe
Direct Contact Prevention Plan:	Did not observe
Chemical Management Plan:	Did not observe
Conservation Practices:	Buffers and setbacks on fields were identified
Manure Testing Protocols:	Protocols were present in NMP
Soil Testing Protocols:	Protocols were present in NMP
Land Application Protocols:	Protocols were present in NMP
Additional NMP comments:	None

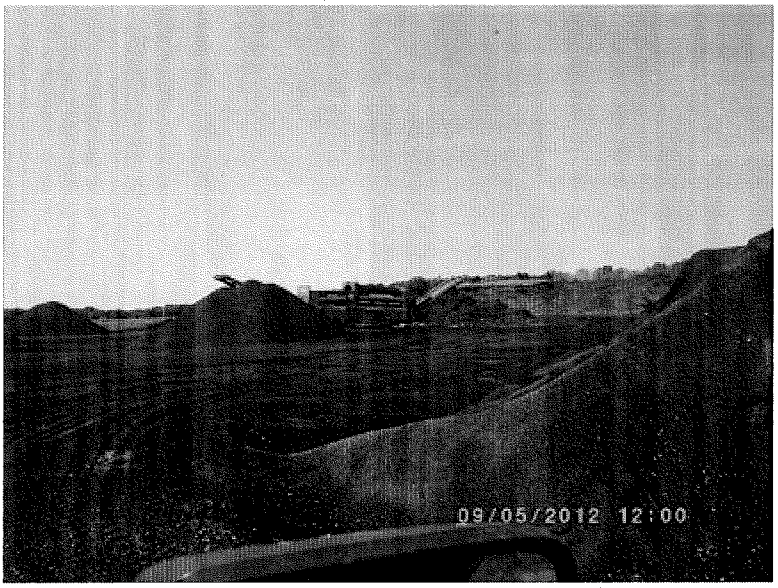
Walkthrough of the Facility

EPA began the inspection at the Compost Facility. EPA rode in the facility vehicle to the other facility locations. The access road crossed over Mutton Creek to the north of the Dairy on the way. EPA noted water in the creek.

IMGP1436: Crossing Mutton Creek along facility access road. There was water in Mutton Creek on the day of the inspection.
Location: North of the Dairy
Facing: North
Date/Time: 09/05/12 11:55 A.M.

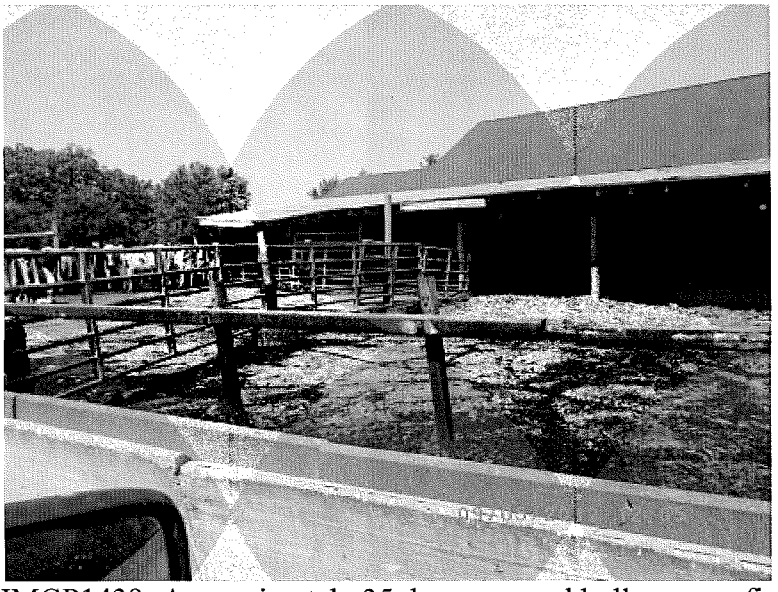
The Composting operation utilizes the solid waste generated at the facility and receives additional compost material from the community. Golden Oaks bags and sells the compost to local retail outlets. The composting is covered under an NPDES permit managed by the IEPA Bureau of Land.

IMGP1437: Windrow of compost at the Compost Facility.
Location: Compost Facility
Facing: North
Date/Time: 09/05/12 11:57 A.M.

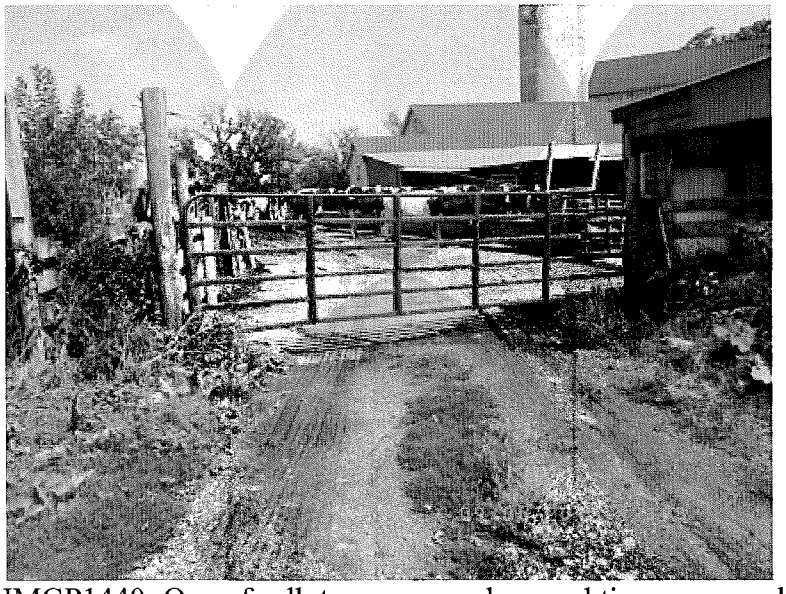


IMGP1438: Compost piles of finished compost.
Location: Compost Facility
Facing: Northwest
Date/Time: 09/05/12 12:00 P.M.

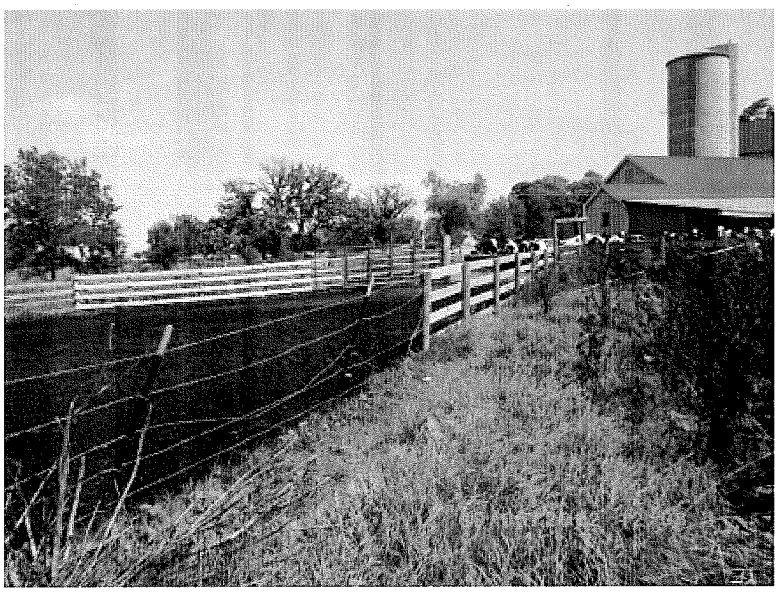
At the Whipple Farm, Golden Oaks maintains approximately 35 dry cows. EPA observed the open lots attached to the barn. Runoff from the open lots would flow to a vegetated area to the north between the facility and Neville Road or to the west to the pasture. Although the lowest elevation point was along Neville Road north of the barns, there was no culvert to convey flow across the road and away from the facility. Any accumulation of precipitation would flow back into the vegetated area and back into the pasture and open lots.



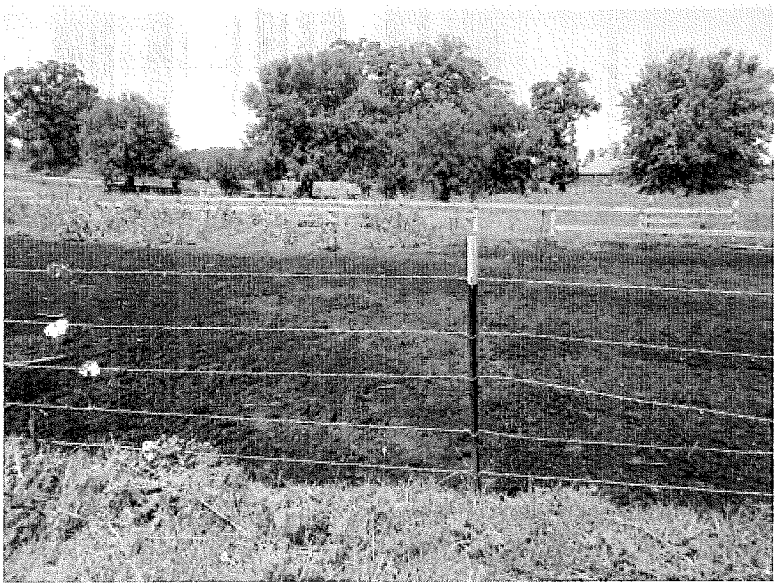
IMGP1439: Approximately 35 dry cows and bulls are confined at the Whipple Farm.
Location: Whipple Farm
Facing: North
Date/Time: 09/05/12 12:05 P.M.



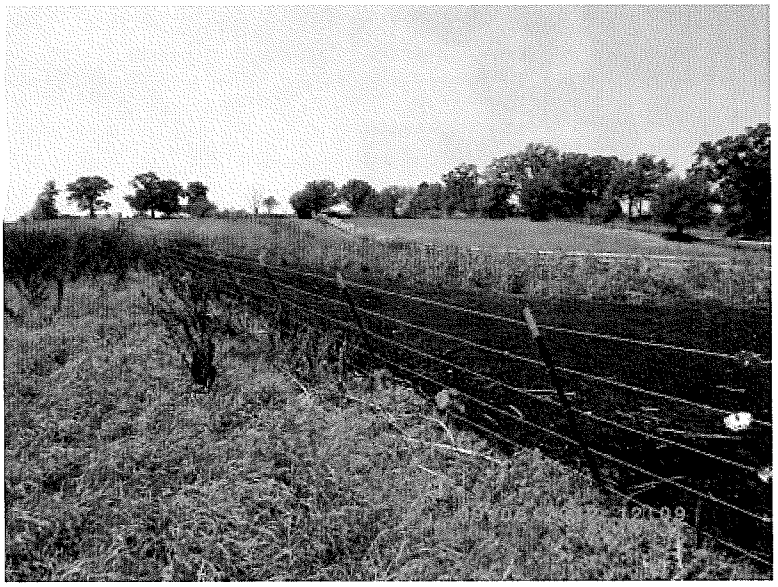
IMGP1440: Open feedlots are scraped several times per week. Runoff would flow to a pasture on the north and west sides of the facility.
Location: Whipple Farm
Facing: North
Date/Time: 09/05/12 12:08 P.M.



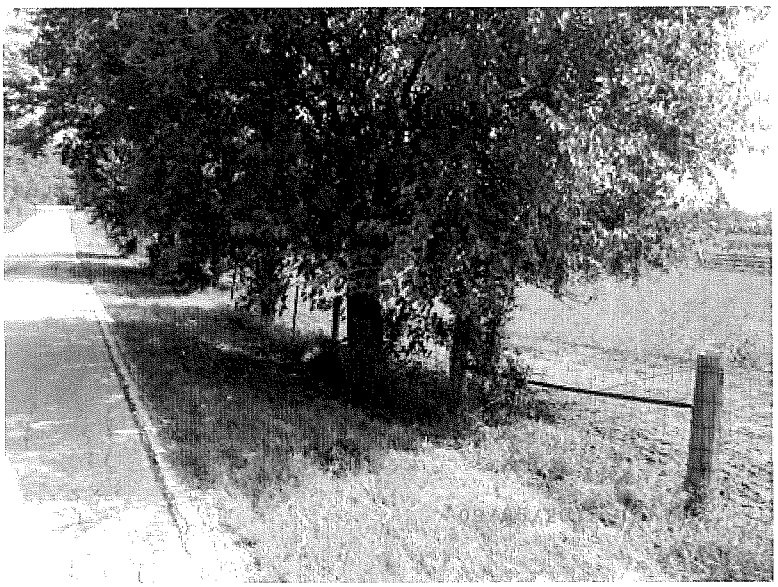
IMGP1441: Pasture for dry cows and bulls at Whipple Farm.
Location: Whipple Farm
Facing: Northeast
Date/Time: 09/05/12 12:08 P.M.



IMGP1442: Neville Road is just beyond the tree line. Runoff from walkway would flow to a vegetated area to the north before reaching a roadside ditch. There is no culvert in the roadside ditch to transport any animal waste away from Whipple Farm.
Location: Whipple Farm
Facing: North
Date/Time: 09/05/12 12:09 P.M.



IMGP1443: Cattle walkway leads to pasture. Neville Road is to the right in the photo.
Location: Whipple Farm
Facing: Northwest
Date/Time: 09/05/12 12:09 P.M.



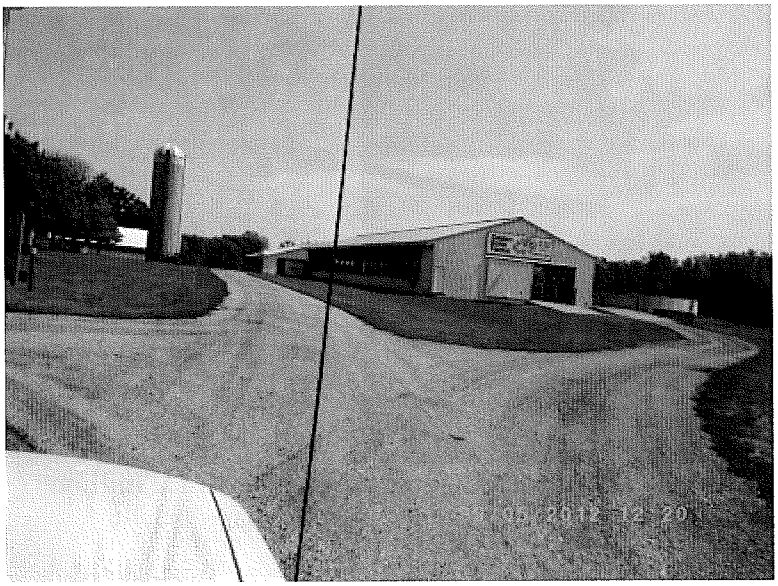
IMGP1444: Roadside ditch along Neville Road has no culvert. Lowest point is just north of walkway. Any runoff would not leave the property.
Location: North of Whipple Farm
Facing: Southeast
Date/Time: 09/05/12 12:18 P.M.

IMGP1445: Lowest point along Neville Road.
Location: North of Whipple Farm
Facing: South
Date/Time: 09/05/12 12:19 P.M.

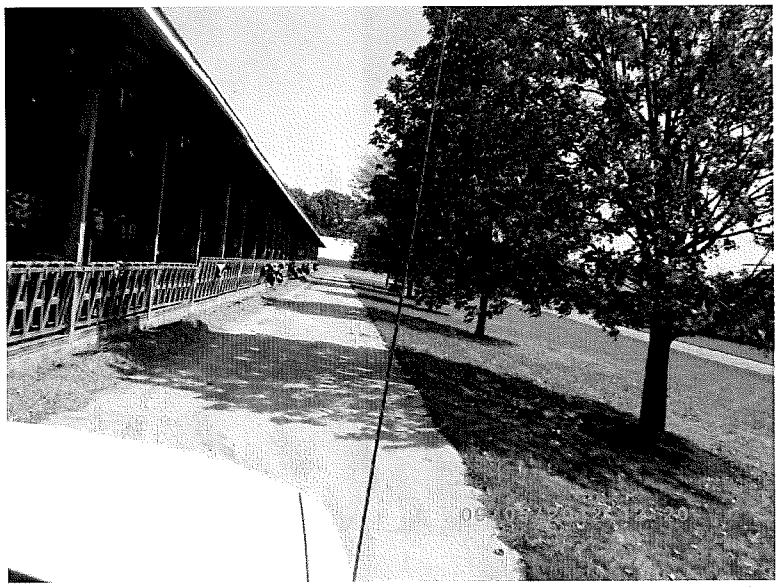
IMGP1446: No culvert for roadside ditch along Neville Road.
Location: North of Whipple Farm
Facing: Southeast
Date/Time: 09/05/12 12:19 P.M.

EPA rode with Mr. Patterson in the facility vehicle to the Darrell Road Facility. The Darrel Road Facility houses approximately 380 young heifers in three freestall barns. Manure is manually pushed to a flume before flowing to a 4000 gallon Reception Pit. Manure is then pumped to an above ground Concrete Storage Tank. Although feed for the cows is placed on the ground in feed alleys, spilled feed is swept up regularly so as

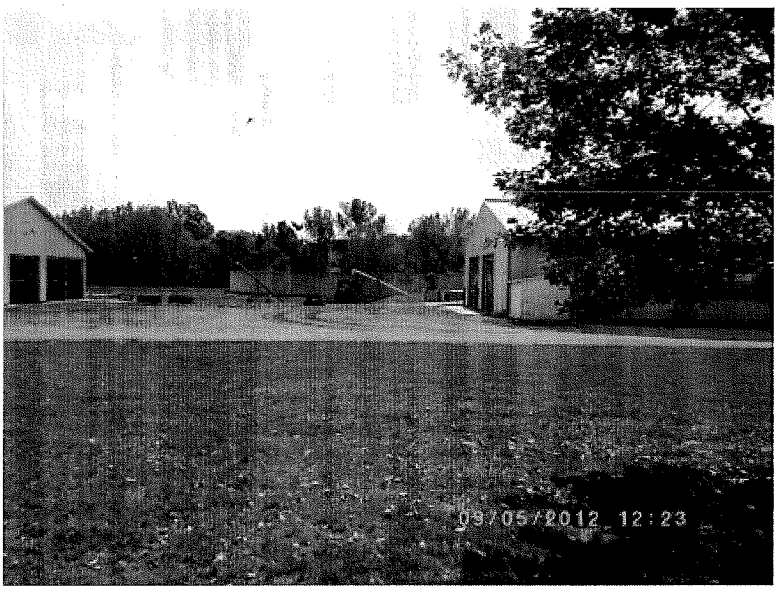
not to flow away from the barns to the surrounding land. Sawdust is used as bedding for the heifers.



IMGP1447: Approximately 380 young heifers are confined at the Darrell Road Facility.
Location: Darrell Road Facility
Facing: Southeast
Date/Time: 09/05/12 12:20 P.M.



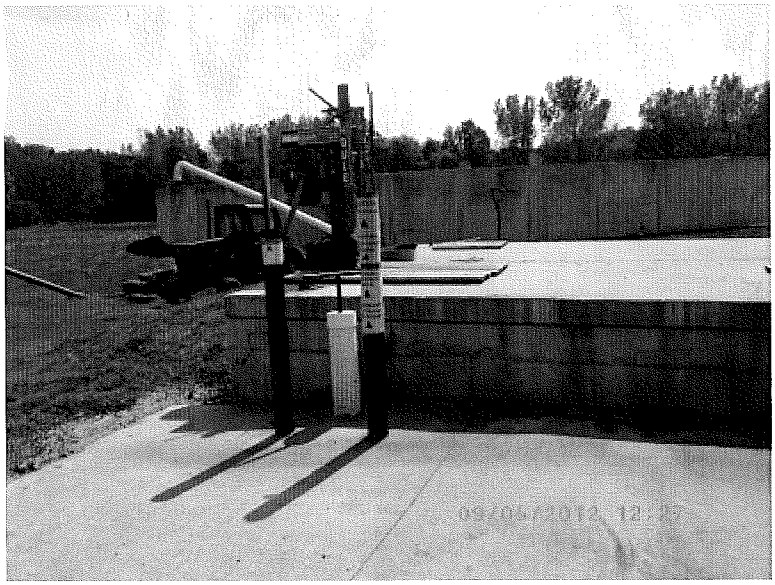
IMGP1448: Barns are scraped twice per day. Feed is on the ground in feed alley outside the barn.
Location: Darrell Road Facility
Facing: East
Date/Time: 09/05/12 12:20 P.M.



IMGP1449: Concrete Storage Tank (between barns in background) holds 1.2 million gallons. Tank is located south of the barns.
Location: Darrell Road Facility
Facfacing: South
Date/Time: 09/05/12 12:23 P.M.

IMGP1450: Sawdust is used as bedding in the barns at the Darrell Road Facility.
Location: Darrell Road Facility
Facing: West
Date/Time: 09/05/12 12:25 P.M.

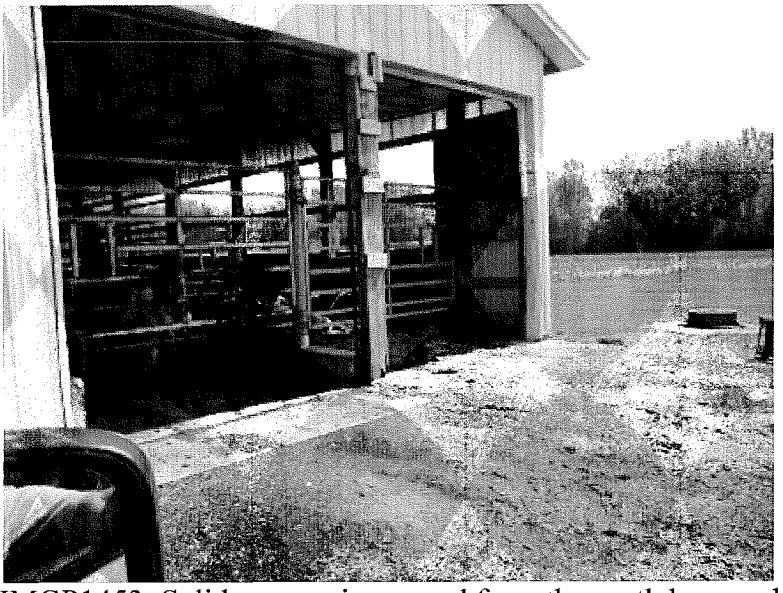
IMGP1451: Barns are manually scraped to a flume on the east side of the south barn.
Location: Darrell Road Facility
Facing: Down
Date/Time: 09/05/12 12:27 P.M.



IMGP1452: A pump agitates the manure in the attached 4000 gallon Reception Pit and creates a circulation to draw manure from the flume to the pit. Manure is then pumped to the Concrete Storage Tank.
Location: Darrell Road Facility
Facing: South
Date/Time: 09/05/12 12:27 P.M.

EPA noted an area of manure and process wastewater runoff on the east side of the north barn. While scraping the manure from the barn, it is pushed up against the concrete wall outside the barn. Portions of the wall had been removed to allow for access to the

concrete pad. No curbing is present at the gates to prevent manure and process wastewater from flowing off the concrete pad. No discharge to surface water was observed on the day of the inspection.



IMGP1453: Solid manure is scraped from the north barn and pushed up against a concrete wall.
Location: Darrell Road Facility
Facing: Northwest
Date/Time: 09/05/12 12:28 P.M.

IMGP1454: The portion of wall that is missing allows for manure and process wastewater to run off to the east.
Location: Darrell Road Facility
Facing: Northwest
Date/Time: 09/05/12 12:29 P.M.

IMGP1455: Manure and process wastewater can run off the concrete pad.
Location: Darrell Road Facility
Facing: Down
Date/Time: 09/05/12 12:30 P.M.

IMGP1456: Manure, spilled feed and process wastewater are not contained on the east side of the north barn.
Location: Darrell Road Facility
Facing: Northwest
Date/Time: 09/05/12 12:30 P.M.

IMGP1457: Manure, spilled feed and process wastewater are not contained on the east side of the north barn.
Location: Darrell Road Facility
Facing: Down
Date/Time: 09/05/12 12:30 P.M.

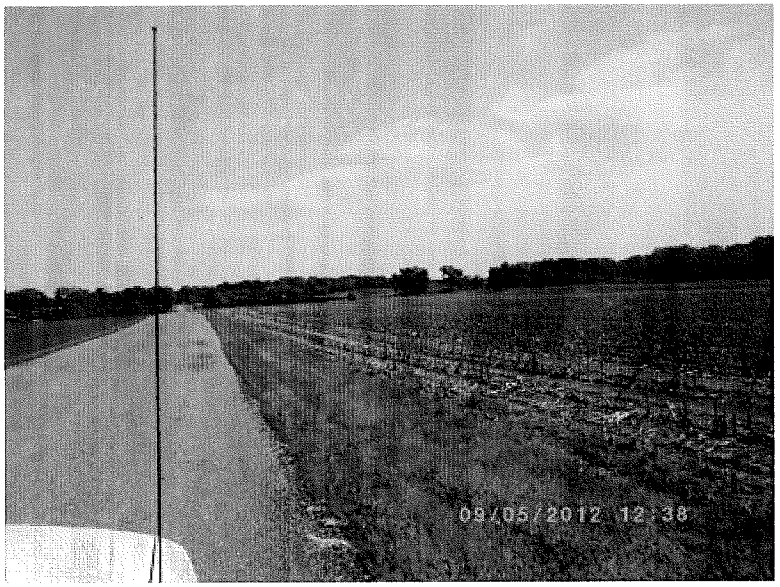
IMGP1458: Truck access to concrete pad can allow manure and process wastewater to run off to the north.
Location: Northeast corner of Darrell Road Facility
Facing: West
Date/Time: 09/05/12 12:30 P.M.

IMGP1459: Denuded area northeast of barns at Darrell Road Facility.
Location: Northeast corner of Darrell Road Facility
Facing: Northeast
Date/Time: 09/05/12 12:31 P.M.

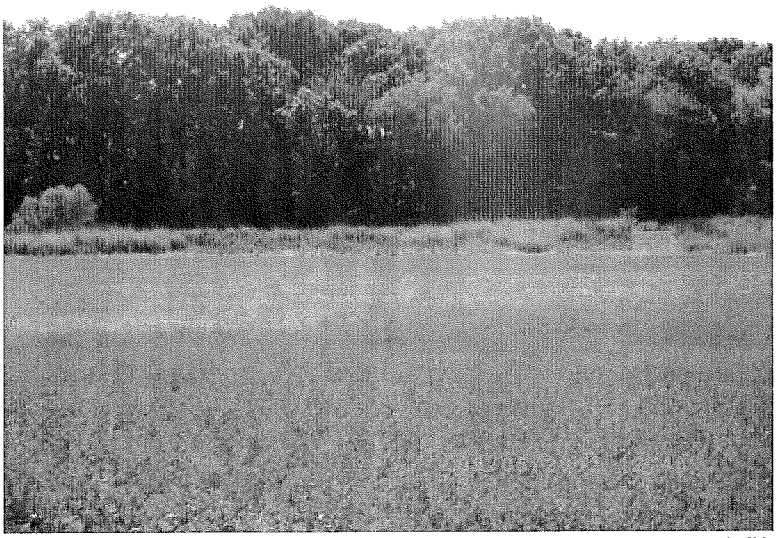
IMGP1460: Runoff from concrete pad would flow to vegetated area to the north and east.
Location: Northeast corner of Darrell Road Facility
Facing: Northeast
Date/Time: 09/05/12 12:31 P.M.

The inspection continued at the Silage Pad of the Dairy, passing through the Compost Facility on the way. The Silage Pad is on the north end of the Dairy. EPA observed silage leachate pooled in the northwest corner of the Silage Pad and a channelized pathway of silage leachate leading to the west to a Vegetated Filter. After approximately 30 feet, the channelization of the leachate was not present anymore. Mr. Patterson stated

that he had never seen the Vegetated Filter completely full with precipitation. EPA discussed with Mr. Patterson that although silage leachate flows to a vegetated filter, during periods of heavy precipitation, if the vegetated filter overflowed to Mutton Creek, the presence of silage leachate in that water would be considered a discharge.



IMGP1461: Access road between Compost Facility and Dairy.
Location: West of Compost Facility
Facing: East
Date/Time: 09/05/12 12:38 P.M.



IMGP1462: Runoff from Silage Pad flows to a vegetated filter to the west.
Location: Northwest corner of Silage Pad
Facing: West
Date/Time: 09/05/12 12:48 P.M.

IMGP1463: Runoff from Silage Pad flows to a vegetated filter to the west.
Location: Northwest corner of Silage Pad
Facing: West
Date/Time: 09/05/12 12:49 P.M.

IMGP1464: Runoff from Silage Pad channelizes in the northwest corner of the pad.
Location: Northwest corner of Silage Pad
Facing: South
Date/Time: 09/05/12 12:53 P.M.

IMGP1465: Vegetated filter area.
Location: Northwest corner of Silage Pad
Facing: Northwest
Date/Time: 09/05/12 12:53 P.M.

IMGP1466: Silage leachate pathway to vegetated filter.
Location: Northwest corner of Silage Pad
Facing: Northwest
Date/Time: 09/05/12 12:53 P.M.

IMGP1467: Runoff from silage is not contained. Runoff flows to vegetated buffer to the west. No discharge to surface water was observed.
Location: Northwest corner of Silage Pad
Facing: East
Date/Time: 09/05/12 12:53 P.M.

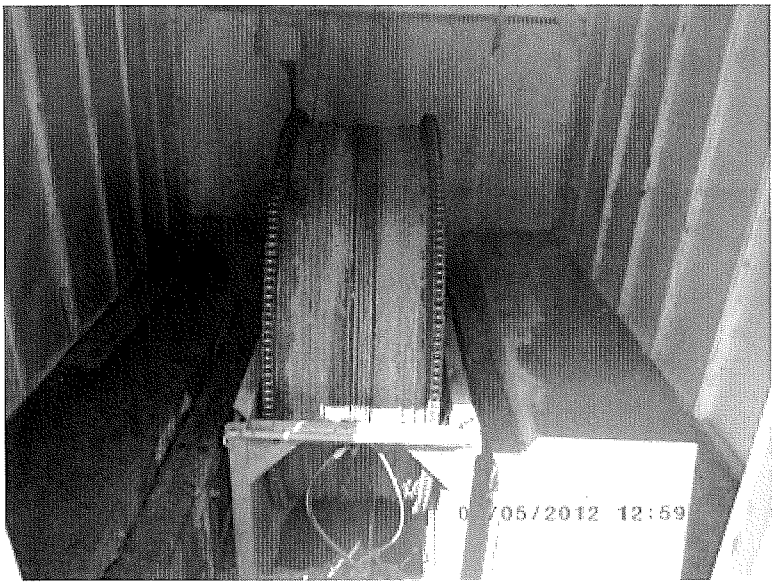
IMGP1468: Facility reports that vegetated filter area never fills up.
Location: Northwest corner of Silage Pad
Facing: West
Date/Time: 09/05/12 12:54 P.M.

IMGP1469: Vegetated filter for Silage Pad.
Location: Northwest corner of Silage Pad
Facing: Northwest
Date/Time: 09/05/12 12:54 P.M.

At the Dairy's freestall barns, EPA observed the central alley where manure is manually scraped. Once in the central alley, the manure is pulled to a 54,000 gallon Circular Pit in the Sand Separation Building by a scraper attached to a cable.

IMGP1470: In dairy freestall barns, manure is scraped to central alley.
Location: North Barn
Facing: South
Date/Time: 09/05/12 12:58 P.M.

IMGP1471: A cable pulls manure along the alley to a Circular Pit in the Sand Separation Building. Cable channel is underground and cable spool is located in this shed.
Location: Cable shed
Facing: Down
Date/Time: 09/05/12 12:59 P.M.



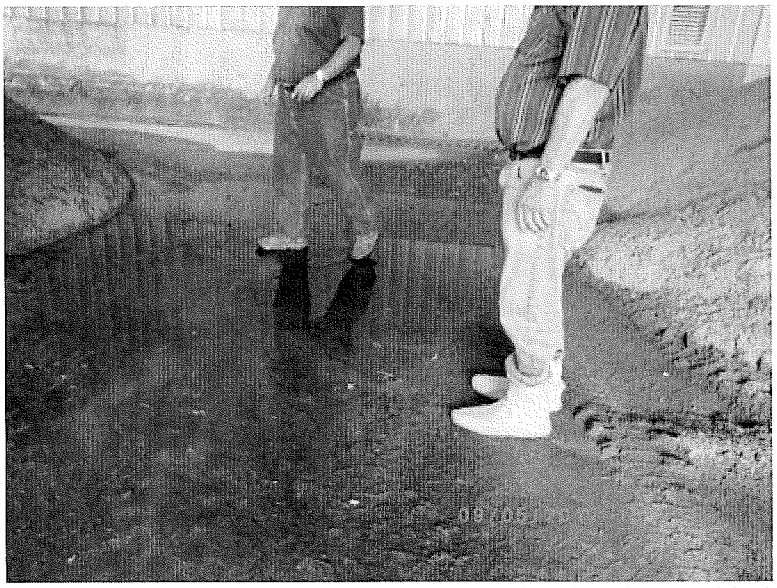
IMGP1472: Spool of cable in shed.
Location: Cable shed
Facing: Down
Date/Time: 09/05/12 12:59 P.M.

An agitator in the Circular Pit keeps the sand in suspension in the manure slurry before it is pumped to the sand separator. Reclaimed sand is stockpiled in the Sand Separation Building to dry before it is reused as bedding in the freestall barns. The leachate from the drying sand stockpiles flows along the floor of the Sand Separation Building to the

Circular Pit. After the sand is separated out from the waste stream, the liquid is pumped to one of two Settling Basins where it is allowed to settle. The solids from the Settling Basins are reclaimed and taken to the Compost Facility to be composted. The liquid is pumped to the 7.2 million gallon Storage Pond.

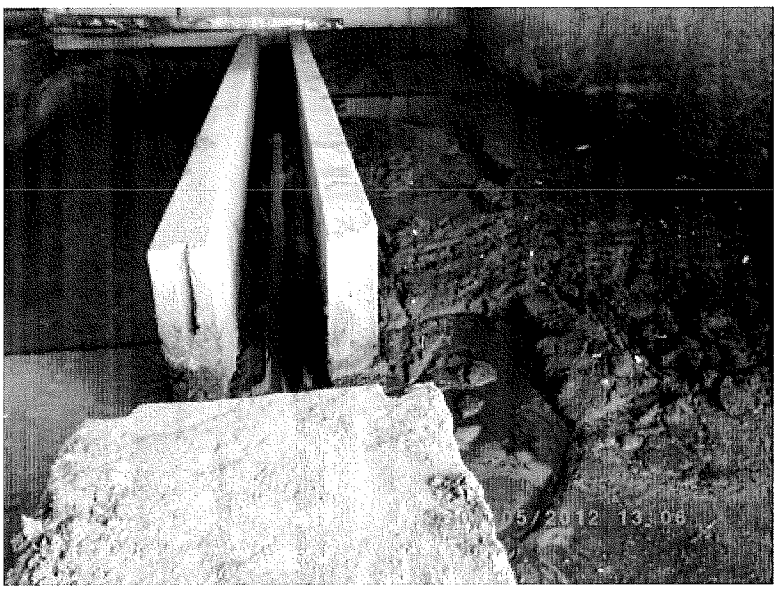
IMGP1473: Circular Pit in the Sand Separation Building receives manure from dairy freestall barns.
Location: In Sand Separation Building
Facing: Down
Date/Time: 09/05/12 1:00 P.M.

IMGP1474: Runoff from stockpiled sand flows along floor of building to the Circular Pit.
Location: In Sand Separation Building
Facing: Down
Date/Time: 09/05/12 1:03 P.M.



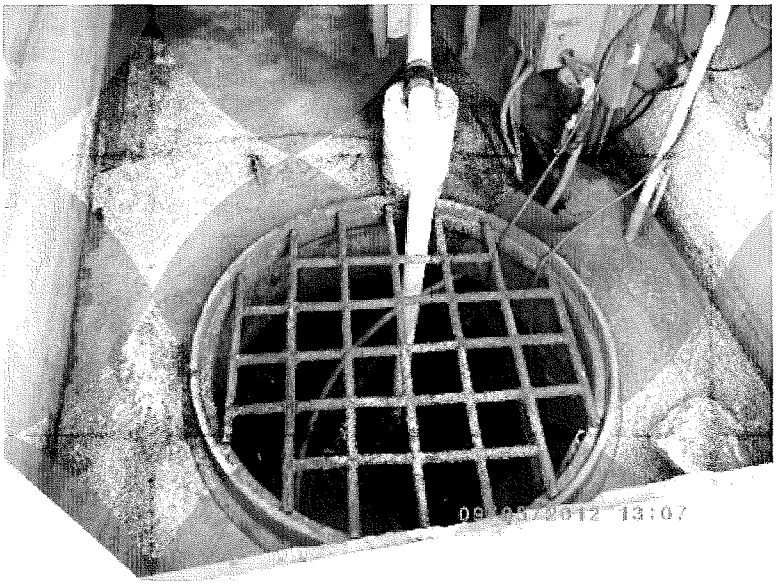
IMGP1475: Stockpiled used sand is air dried and reused in barns for bedding.
Location: In Sand Separation Building
Facing: Down
Date/Time: 09/05/12 1:03 P.M.

IMGP1476: Liquid manure slurry after sand has been separated is piped to settling basins. Two basins allow for facility personnel to switch to empty one when one is full.
Location: In Sand Separation Building
Facing: Down
Date/Time: 09/05/12 1:03 P.M.

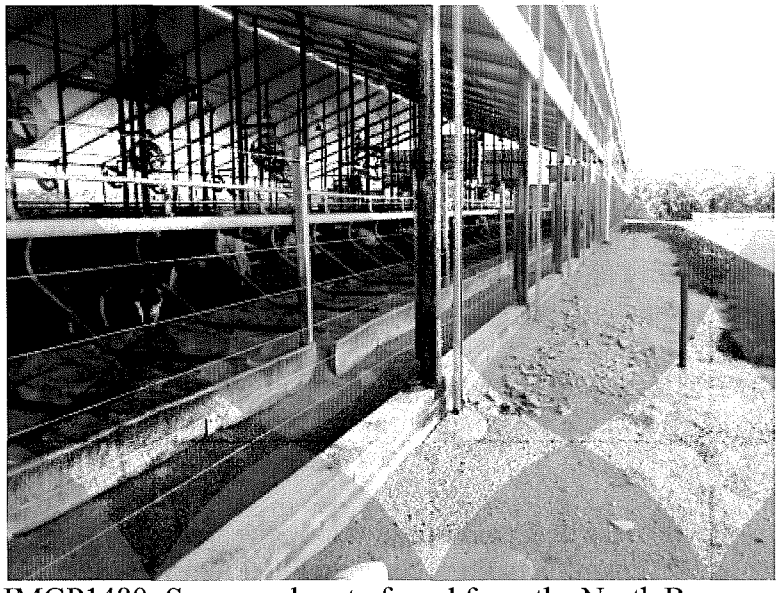


IMGP1477: Settling basins are 8 feet deep at the far end.
Location: In Sand Separation Building
Facing: Down
Date/Time: 09/05/12 1:06 P.M.

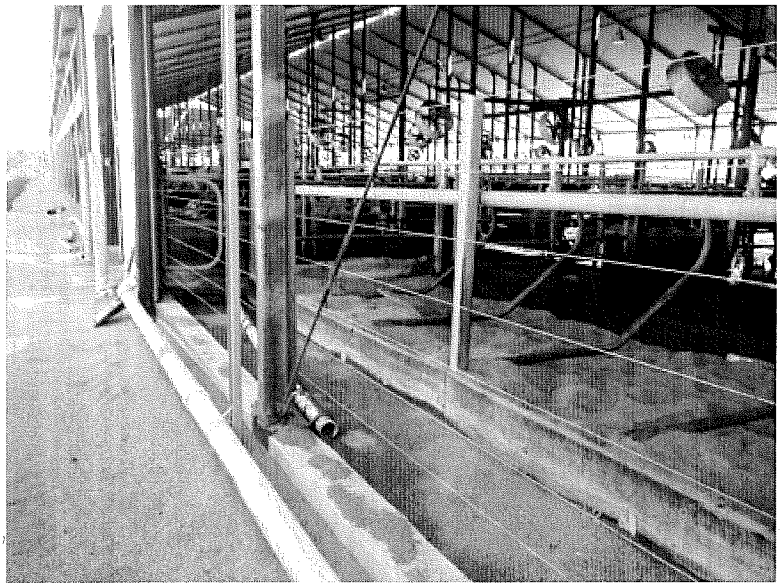
IMGP1478: Looking at Cable Shed and North Barn from Sand Separation Building.
Location: In Sand Separation Building
Facing: Southwest
Date/Time: 09/05/12 1:06 P.M.



IMGP1479: Liquid from settling basins goes into a manhole and from there it is pumped to the Manure Pond. Power outage would cause manhole to fill up and overflow to Circular Pit.
Location: In Sand Separation Building
Facing: Down
Date/Time: 09/05/12 1:07 P.M.



IMGP1480: Some push out of sand from the North Barn.
Location: North side of North Barn
Facing: West
Date/Time: 09/05/12 1:09 P.M.

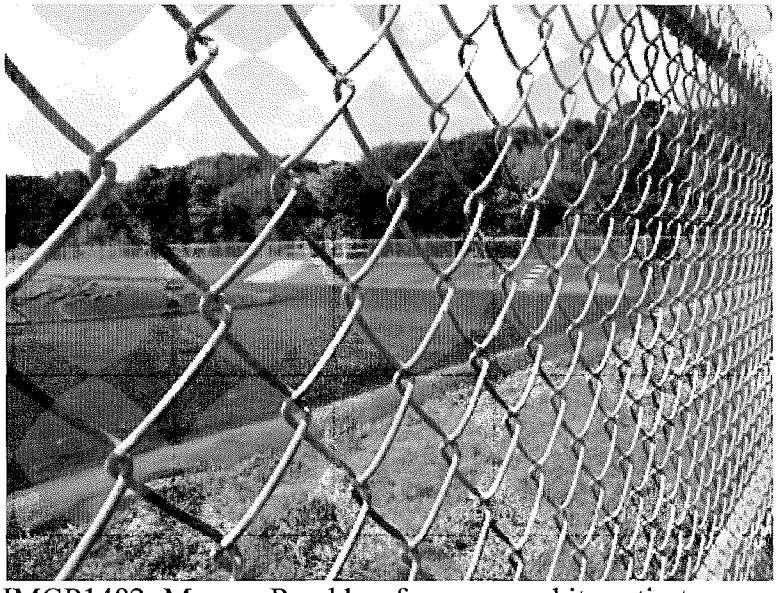


IMGP1481: Push out of sand from North Barn.
Location: North side of North Barn
Facing: East
Date/Time: 09/05/12 1:09 P.M.

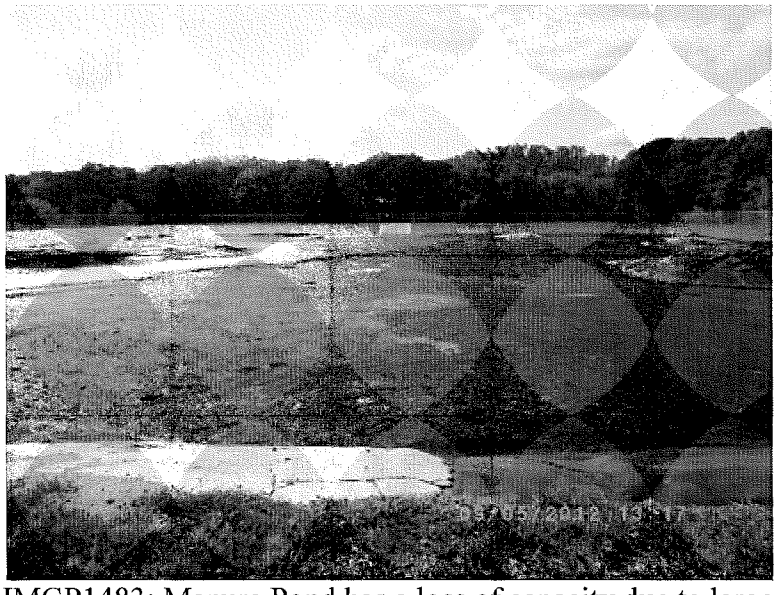
EPA walked the perimeter of the Holding Pond located to the northwest of the Dairy freestall barns. EPA observed several large bubbles in the synthetic liner. Mr. Patterson stated that there is also a clay liner under the synthetic liner and he had not been able to determine the exact cause of the liner bubbles. He suspected that some manure had leaked under the liner during the removal of some pipes and as the manure decomposed, the gases caused the liner bubbles. Mr. Patterson explained that the facility removes the bubbles by placing some piping under the liner in the approximate location of the bubble and the gases then exit. He also said that he had been in touch with several experts that advised him that the liner bubbles were not dangerous or a threat, although they cause a loss of capacity in the pond. The facility has contemplated installing another holding pond with a concrete liner and then removing the synthetic liner from this Holding Pond.

EPA noted that the berms of the Holding Pond were well maintained. There was no woody growth or rodent holes present and the vegetation was mowed to a manageable height.

If the Holding Pond ever overflowed, it was designed to flow along the surface to the north and then to the west, eventually flowing into the Vegetated Filter that was observed northwest of the Silage Pad.

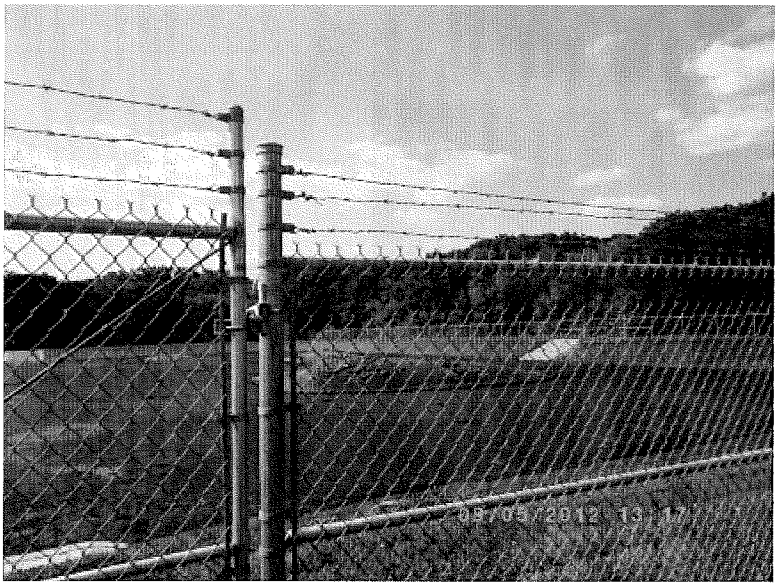


IMGP1482: Manure Pond has fence around its entirety.
Location: Manure Pond
Facing: Northwest
Date/Time: 09/05/12 1:17 P.M.

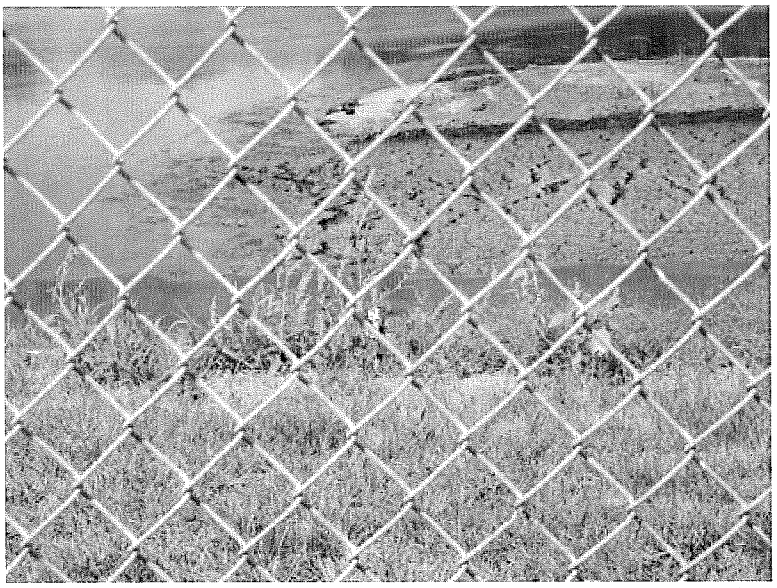


IMGP1483: Manure Pond has a loss of capacity due to large bubbles in the liner.
Location: Manure Pond
Facing: West
Date/Time: 09/05/12 1:17 P.M.

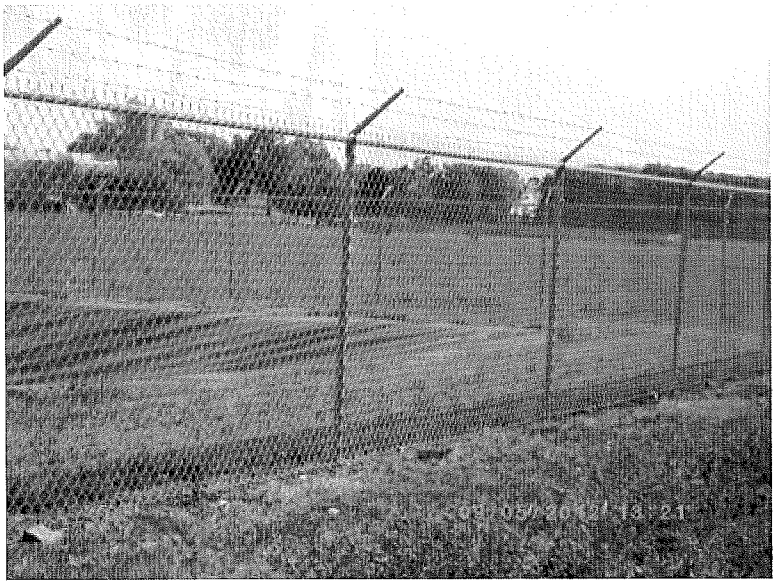
IMGP1484: Mr. Patterson states that he has discussed the liner bubble problem with experts and has been told it is not a major concern.
Location: Manure Pond
Facing: Northwest
Date/Time: 09/05/12 1:17 P.M.



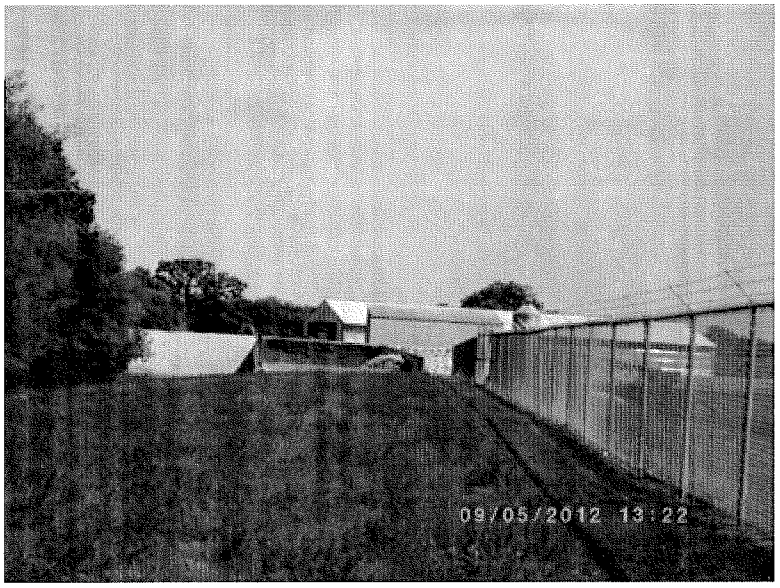
IMGP1485: Liner bubbles were observed by IEPA inspectors during their inspection on May 2, 2012. Mr. Patterson has not been able to completely determine their cause.
Location: Manure Pond
Facing: Northwest
Date/Time: 09/05/12 1:17 P.M.



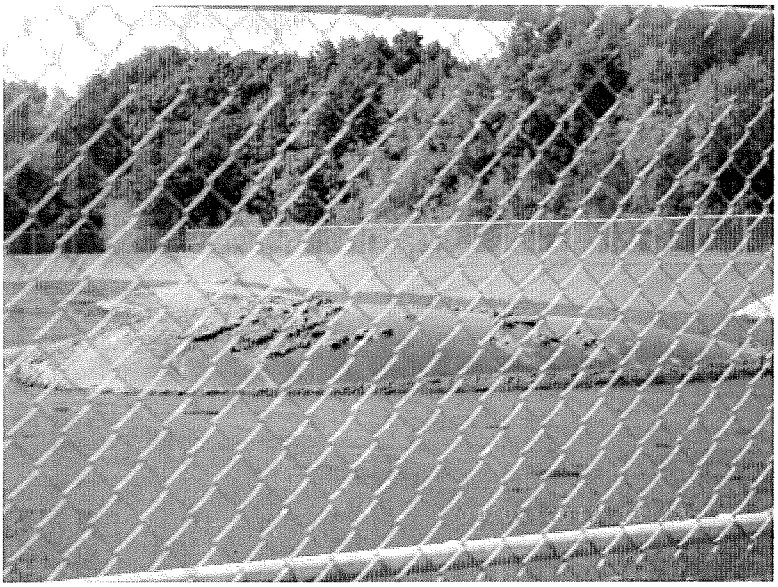
IMGP1486: No woody growth or rodent holes were noted on the Manure Pond berms.
Location: Manure Pond
Facing: Down
Date/Time: 09/05/12 1:20 P.M.



IMGP1487: Vegetation is kept mowed around the Manure Pond.
Location: Manure Pond
Facing: Southwest
Date/Time: 09/05/12 1:21 P.M.

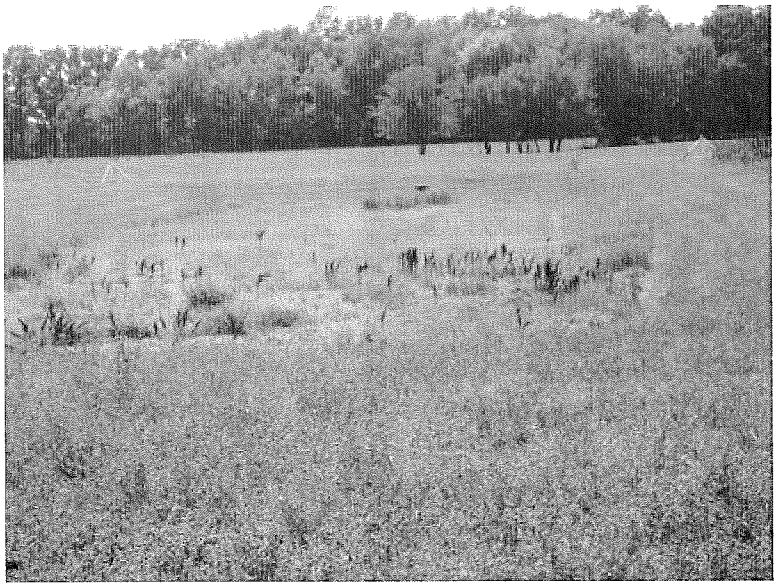


IMGP1488: North side of Manure Pond. Any overflow of the Manure Pond would run off to the north and then to the vegetated filter to the west of the Silage Pad.
Location: Manure Pond
Facing: East
Date/Time: 09/05/12 1:22 P.M.


IMGP1489: Large liner bubble in Manure Pond liner. Mr. Patterson suspects the bubbles to be caused by some manure that got below the liner during a pipe removal process in 2011.
Location: Manure Pond
Facing: Northwest
Date/Time: 09/05/12 1:23 P.M.

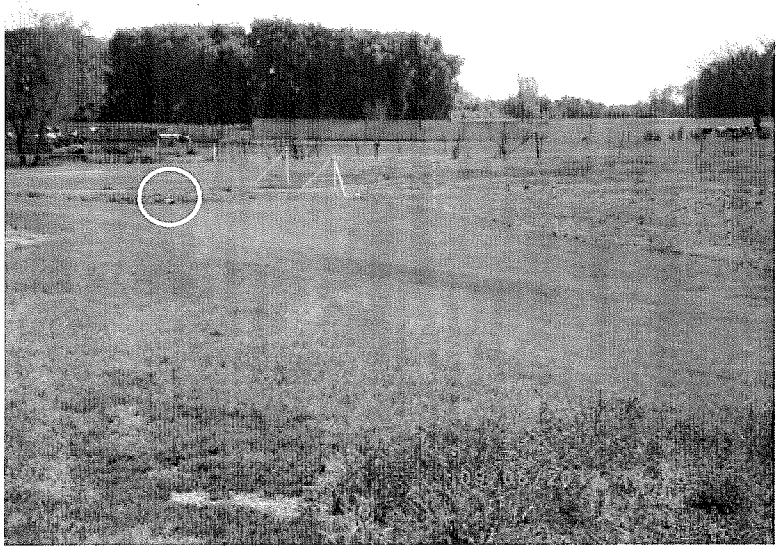
Driving along the west access road of the Dairy, EPA observed the Clean Water Pond to the west of the North and South Barns and the Calf Hutch Area south of the South Barn.

Precipitation landing on and around the North and South Barns flowed to a manhole between the North and South Barns which carried it to the west to the Clean Water Pond. Runoff from the Calf Hutch Area would flow to the west to a large vegetated area. No channelization or discharge was observed from the North or South Barns or the Calf Hutch Area on the day of the inspection.



IMGP1490: Clean water detention basin.
Location: West of the South Barn
Facing: West
Date/Time: 09/05/12 1:23 P.M.

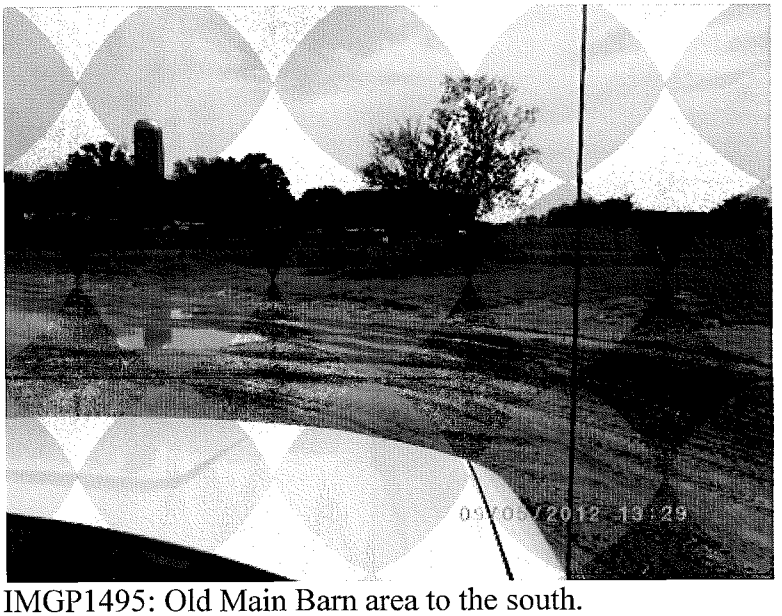
IMGP1491: Between the North and South Barns. Storm water flows to a manhole in center of yard and is piped to the west.
Location: West of North and South Barns
Facing: East
Date/Time: 09/05/12 1:24 P.M.



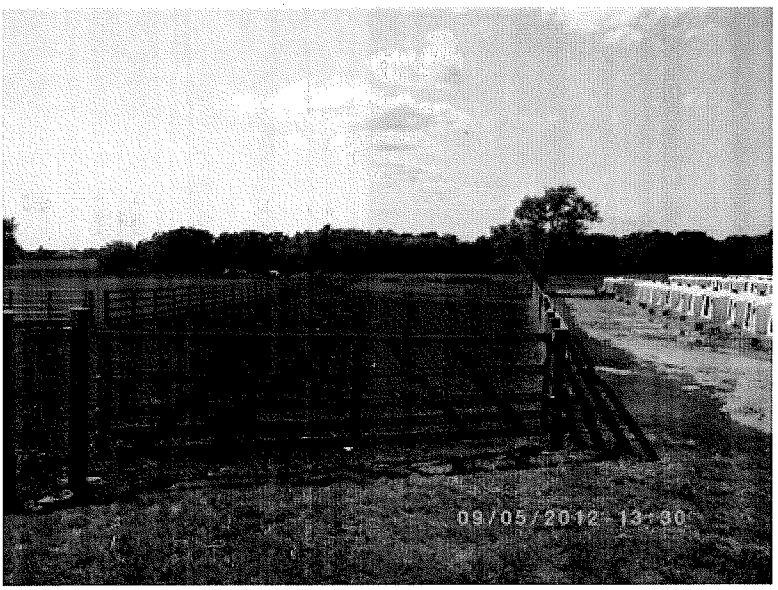
IMGP1492: Storm water culvert under access road directs flow of storm water to the west. Culvert location is identified by a yellow circle.
Location: West side of facility
Facing: East
Date/Time: 09/05/12 1:25 P.M.

IMGP1493: Clean water basin on west side of facility.
Location: West of South Barn
Facing: West
Date/Time: 09/05/12 1:25 P.M.

IMGP1494: Looking into South Barn. Track in and track out of manure and feed is kept at a minimum but no curbing to prevent the flow of process wastewater from flowing off the concrete pad to the west. No channelization or discharge was observed on the day of the inspection.
Location: West of South Barn
Facing: East
Date/Time: 09/05/12 1:26 P.M.



IMGP1495: Old Main Barn area to the south.
Location: Along access road south of South Barn
Facing: South
Date/Time: 09/05/12 1:29 P.M.

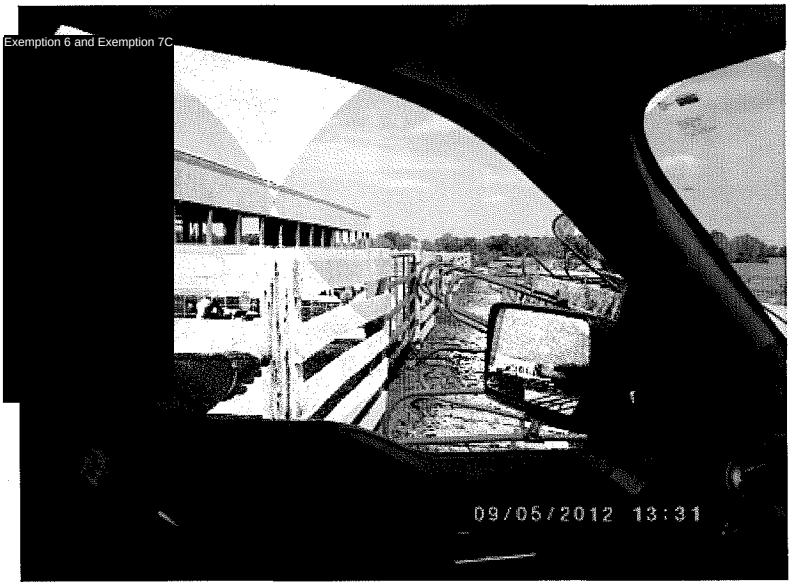


IMGP1496: 105 Calf Hutches south of the South Barn. No discharge from cattle walkway to pasture was observed.
Location: East of Calf Hutches
Facing: West
Date/Time: 09/05/12 1:30 P.M.

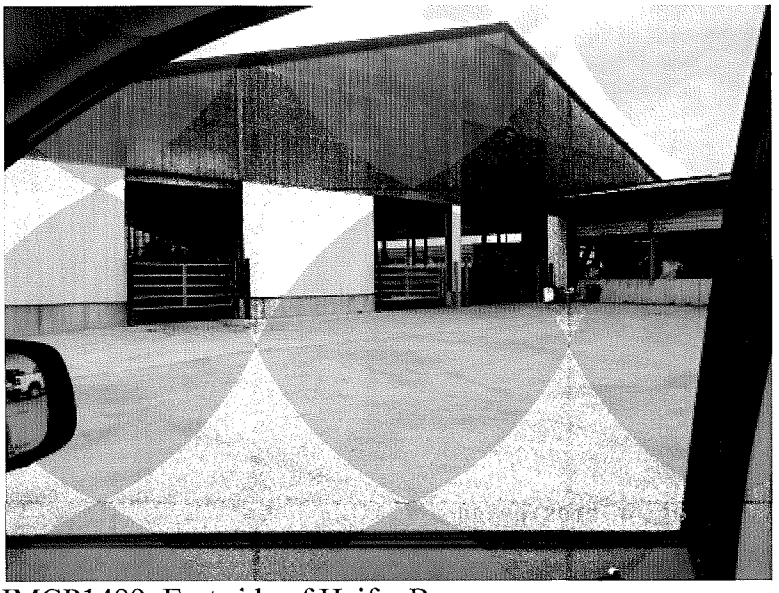
The Old Main Barn at the south end of the Dairy houses approximately 35 dry cows. Open lots attached to the barn are scraped and no runoff or discharge was observed on the day of the inspection.


IMGP1497: Old Main Barn contains approximately 35 dry cows.
Location: South part of Dairy facility
Facing: Southwest
Date/Time: 09/05/12 1:31 P.M.

EPA observed the Heifer Barn at the south end of the facility. This barn has attached open lots and confines approximately 100 heifers. There are no gutters on this barn to prevent precipitation from the roof from flowing down onto the open lots. Runoff from the open lots would flow to a vegetated area to the southeast.

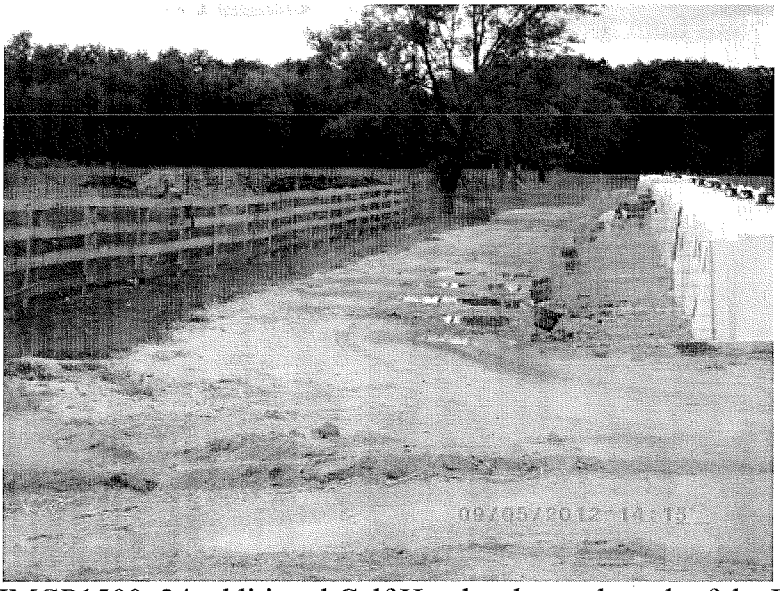


IMGP1498: Heifer Barn confines approximately 100 heifers and has open lots attached. There are no gutters on this barn.
Location: Southwest of Heifer Barn
Facing: Northeast
Date/Time: 09/05/12 1:31 P.M.

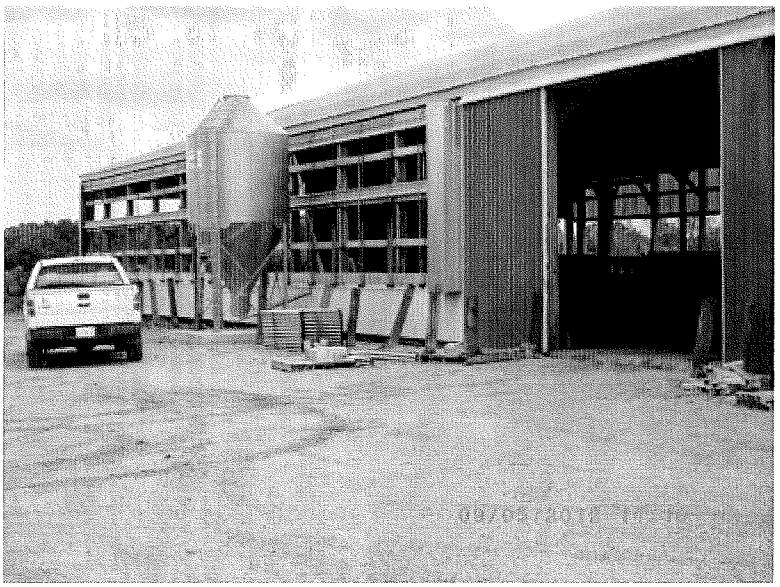


IMGP1499: East side of Heifer Barn.
Location: East of Heifer Barn
Facing: West
Date/Time: 09/05/12 2:15 P.M.

Golden Oaks has placed an additional 24 calf hutches north of the Heifer Barn.

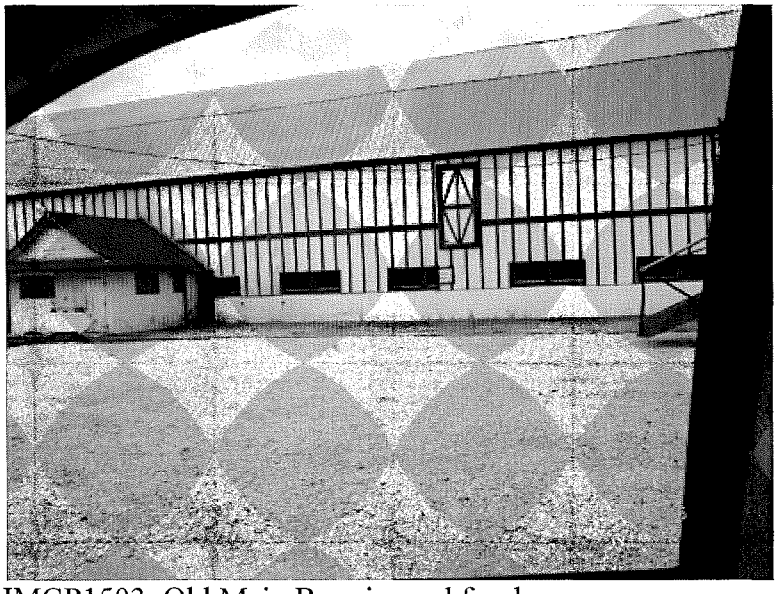


IMGP1500: 24 additional Calf Hutches located north of the Heifer Barn.
Location: North of Heifer Barn.
Facing: West
Date/Time: 09/05/12 2:15 P.M.

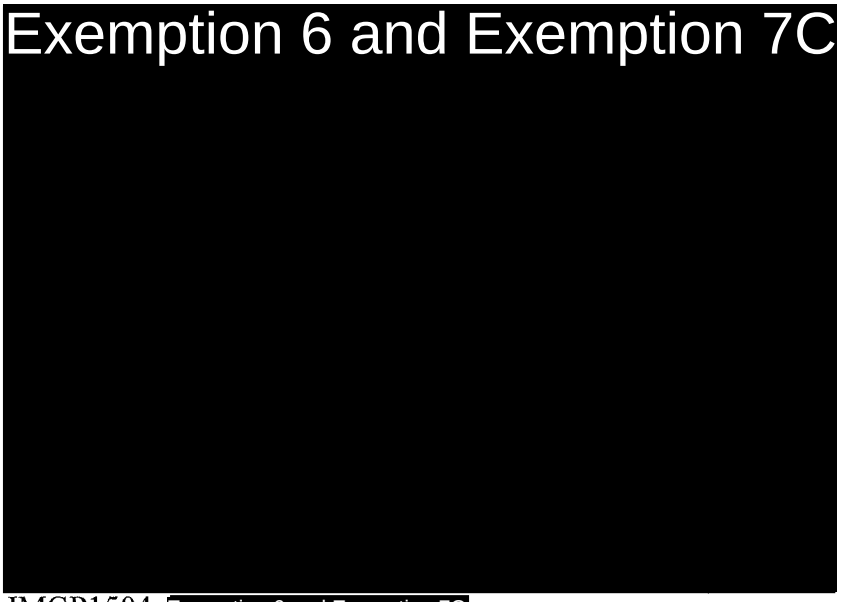


IMGP1501: North side of Heifer Barn.
Location: North of Heifer Barn
Facing: Southeast
Date/Time: 09/05/12 2:16 P.M.

IMGP1502: Golden Oaks Farm Heifer Barn.
Location: Heifer Barn
Facing: Southeast
Date/Time: 09/05/12 2:16 P.M.


IMGP1503: Old Main Barn is used for dry cows.
Location: Old Main Barn
Facing: North
Date/Time: 09/05/12 2:16 P.M.

EPA performed a closing conference and then exited the facility, noting the owner's log home and entry road on the way out. No samples were taken during the inspection.



IMGP1504: Exemption 6 and Exemption 7C
Location: South of dairy
Facing: Southwest
Date/Time: 09/05/12 2:17 P.M.

IMGP1505: Main road from dairy to Bonner Road.
Location: South of dairy buildings
Facing: South
Date/Time: 09/05/12 2:17 P.M.

Closing Conference and Post-Inspection

Areas of Concern discussed with facility personnel?	Yes
Compliance assistance materials given to facility personnel:	None
Disposable Boots Left at Facility?	Yes
Vehicle Washed after leaving facility?	Yes
Date and Time that vehicle was washed:	September 6, 2012 at 7:00 A.M.

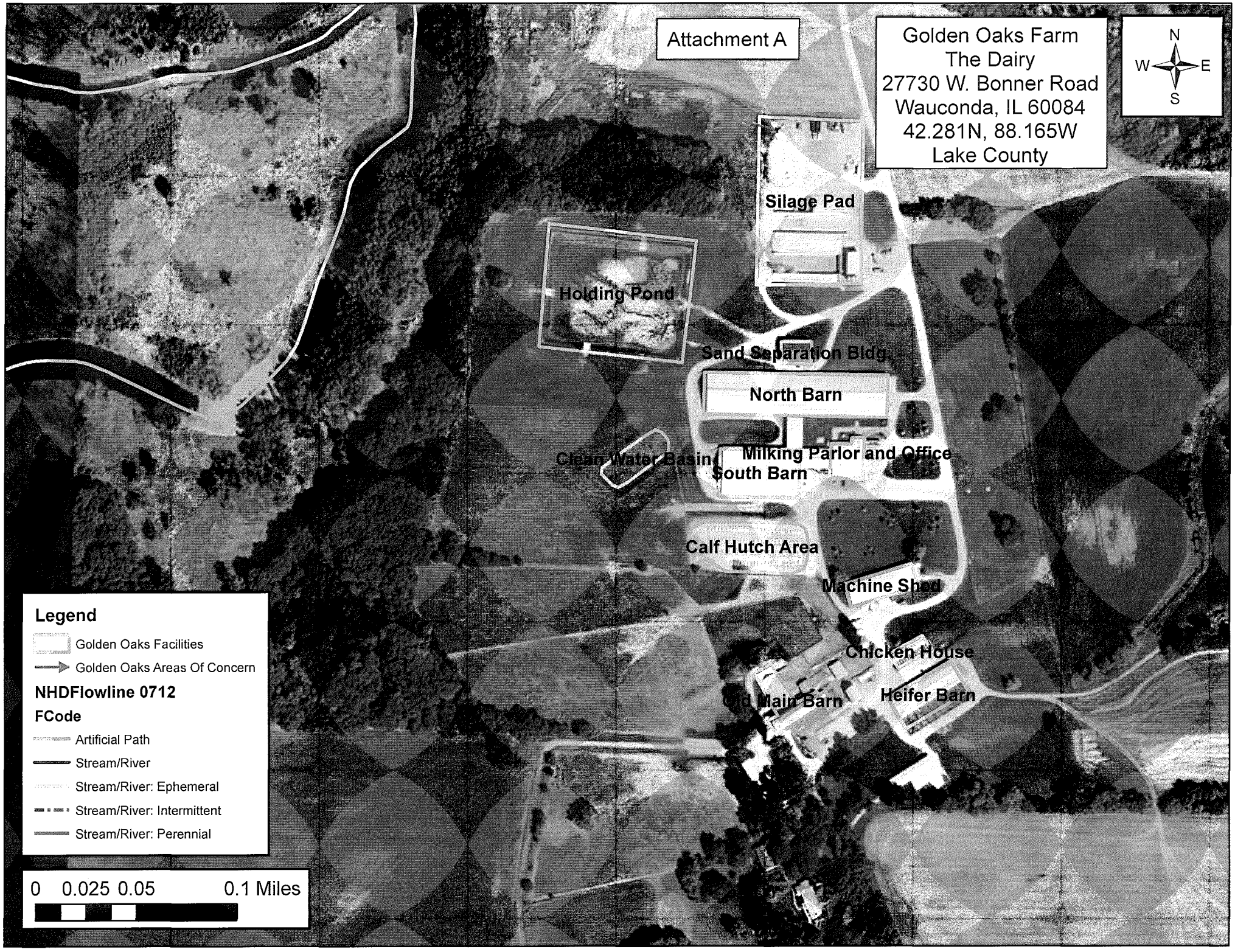
AREAS OF CONCERN

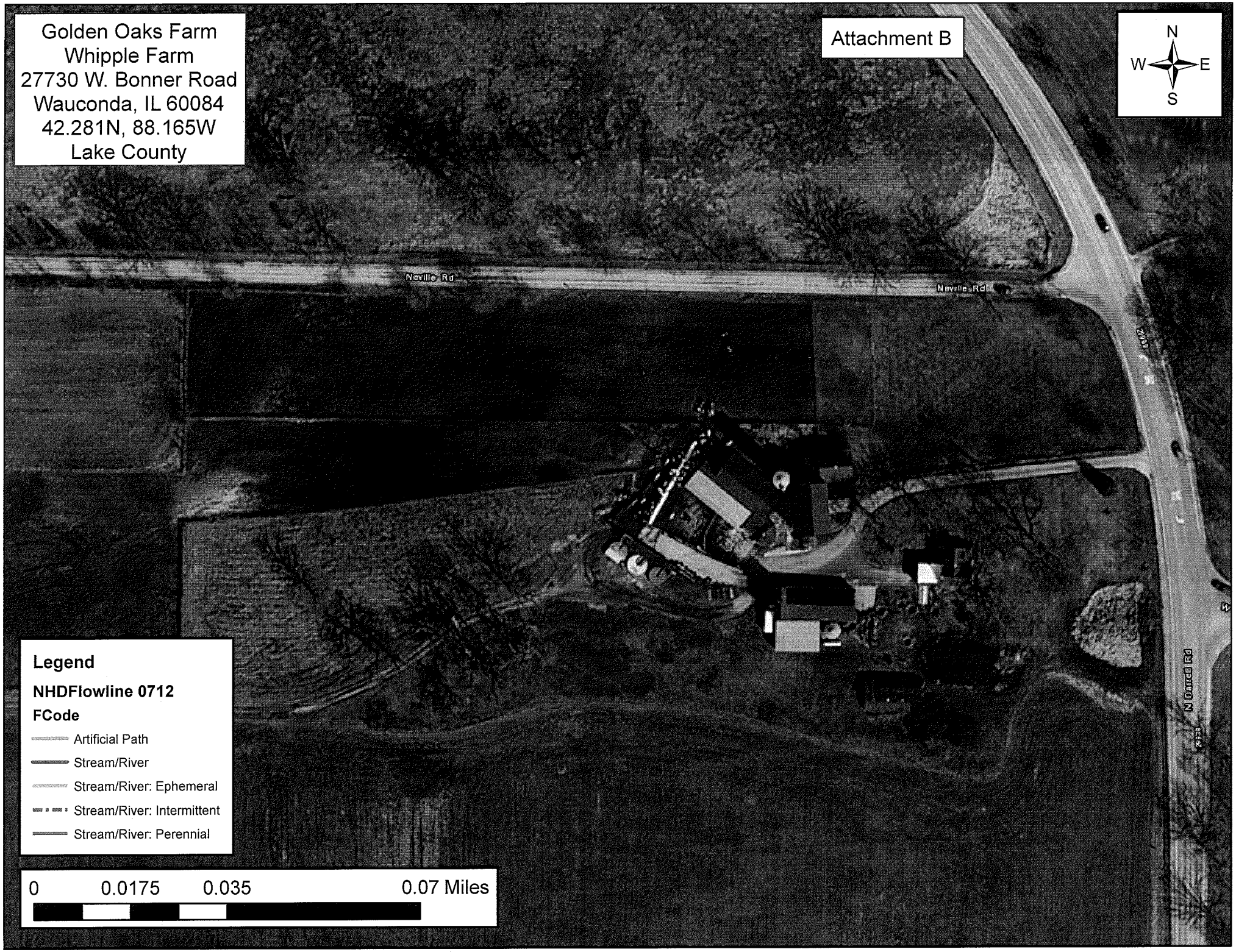
EPA observed these areas of concern whereby pollutants have the potential to reach waters of the United States:

1. Open sections of wall on east side of North Barn at Darrell Road Facility can allow manure and process wastewater to flow away from the concrete pad.
2. Although silage leachate flows to a vegetated filter, during periods of heavy precipitation, if the vegetated filter overflowed to Mutton Creek, the presence of silage leachate in that water would be considered a discharge.
3. The presence of liner bubbles in the synthetic liner of the Holding Pond is a concern because of the loss of storage capacity and the danger if the bubble should pop.

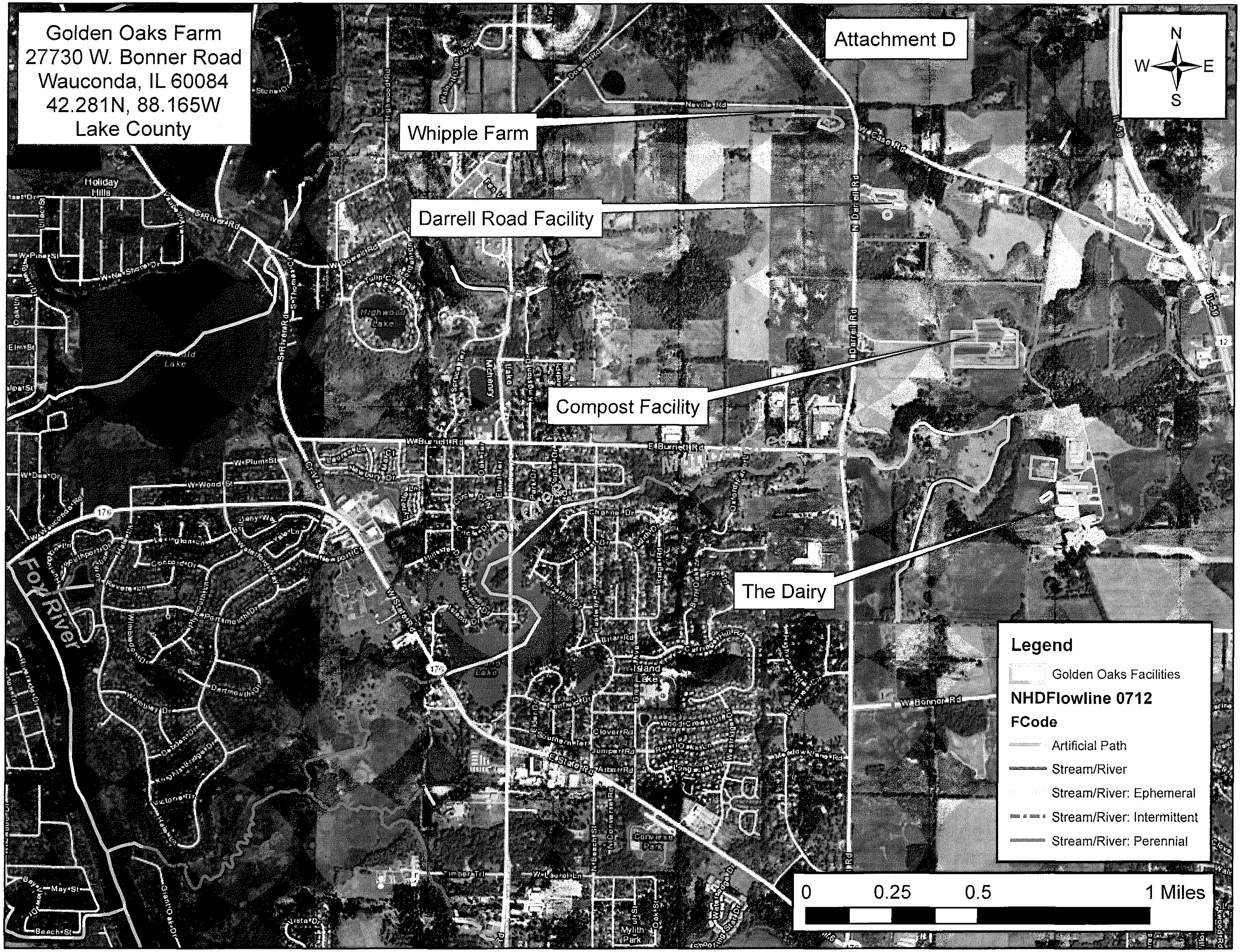
LIST OF ATTACHMENTS

A) Aerial photograph of Golden Oaks Farm Dairy with buildings, waterways and areas of concern labeled.
B) Aerial photograph of Golden Oaks Farm Whipple Farm.
C) Aerial photograph of Golden Oaks Farm Darrell Road Facility.
D) Aerial photograph with all Golden Oaks Farm facilities and waterways to the Fox River.


Attachment A
Golden Oaks Farm
The Dairy
27730 W. Bonner Road
Wauconda, IL 60084
42.281N, 88.165W
Lake County
N
W
E
S
Silage Pad
Holding Pond
Sand Separation Bldg.
North Barn
Clean Water Basin
Milking Parlor and Office
South Barn
Calf Hutch Area
Machine Shed
Chicken House
Old Main Barn
Heifer Barn
Legend
Golden Oaks Facilities
Golden Oaks Areas Of Concern
NHDFlowline 0712
FCode
Artificial Path
Stream/River
Stream/River: Ephemeral
Stream/River: Intermittent
Stream/River: Perennial
0 0.025 0.05 0.1 Miles


Golden Oaks Farm
Whipple Farm
27730 W. Bonner Road
Wauconda, IL 60084
42.281N, 88.165W
Lake County
Attachment B
N
W
E
S
Neville Rd
Neville Rd
N Darrell Rd
Legend
NHDFlowline 0712
FCode
Artificial Path
Stream/River
Stream/River: Ephemeral
Stream/River: Intermittent
Stream/River: Perennial
0
0.0175
0.035
0.07 Miles


Golden Oaks Farm
Darrell Road Facility
27730 W. Bonner Road
Wauconda, IL 60084
42.281N, 88.165W
Lake County
Attachment C
N
W
E
S
Concrete Storage Tank
Legend
Golden Oaks Facilities
Golden Oaks Areas Of Concern
NHDFlowline 0712
FCode
Artificial Path
Stream/River
Stream/River: Ephemeral
Stream/River: Intermittent
Stream/River: Perennial
0
0.025
0.05
0.1 Miles


Golden Oaks Farm
27730 W. Bonner Road
Wauconda, IL 60084
42.281N, 88.165W
Lake County
Attachment D
N
W
E
S
Whipple Farm
Darrell Road Facility
Compost Facility
The Dairy
Fox River
Legend
Golden Oaks Facilities
NHDFlowline 0712
FCode
Artificial Path
Stream/River
Stream/River: Ephemeral
Stream/River: Intermittent
Stream/River: Perennial
0
0.25
0.5
1 Miles